

In This Issue...

COVER FOCUS

Lessons Learned

Learn from the trials and tribulations others have gone through with our compilations of the best lessons learned in four key data center and IT areas.

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Effective Data Center Management

What does it take to be the best data center/IT manager possible? We talked with some experts to find out their tips and advice. See page 26.



PHYSICAL INFRASTRUCTURE

■ Adder's CATxIP 5000 KVM-Over-IP switch offers companies an affordable and easily configured **KVM-over-IP** option page 7

■ The Minuteman **PRO-RT Series of UPSes** from Para Systems is available in a 1,000VA configuration for \$279 and a 1,500VA incarnation for \$359, providing a great deal of coverage for the money page 7

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■ As the economy begins to pick up, enterprises that shelved the idea of **refurbishing their data centers** a few years ago may be revisiting that idea page 16

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■ **Product Spotlight:**
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■ Your corporate network may be set up like Fort Knox, but a steady parade of customers, contractors, and other visitors still need access to that ultra-secure system. Learn how to create a **guest access policy** that will keep your network safe page 20

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■ **Application delivery** is a changing technology, especially as more enterprise employees become data hogs on both mobile and stationary devices page 22

■ In the most recent Data Center Users' Group survey, availability topped infrastructure management and heat density as the **leading data center concern**, prompting a closer look at the catalysts behind this rise page 24

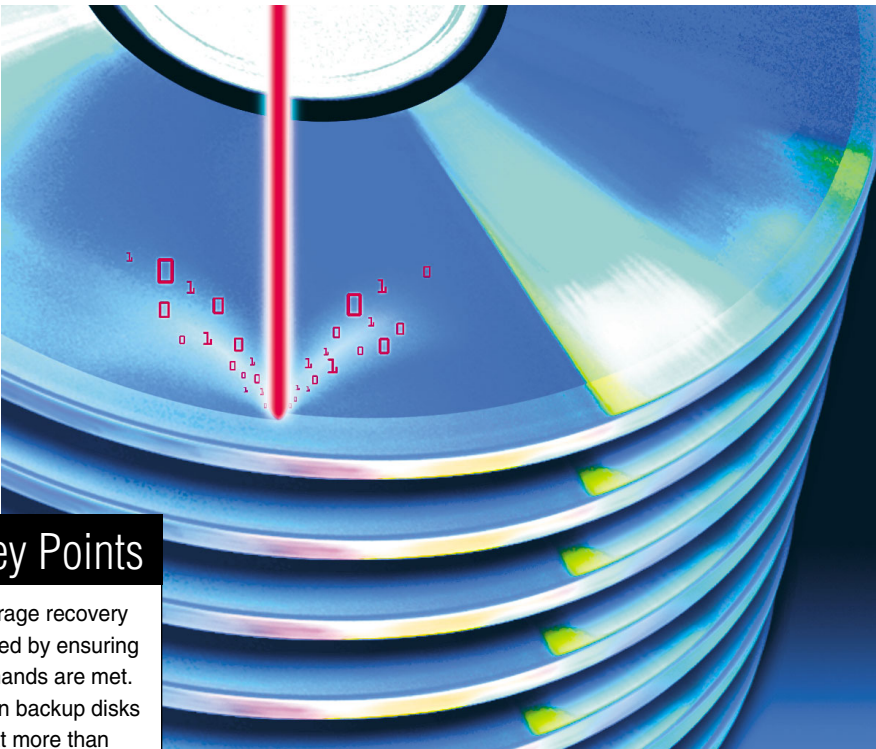
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Lessons Learned
In Storage Management

Insights & Fixes For Common & Not-So-Common Problems

by Bruce Gain
• • •

STORAGE FAILURES are dangerous for enterprises, especially when critical data is involved. In the worst case, data loss can cause enterprises to close their doors when key data, such as customer records and contacts, is lost forever. But when mistakes are made and things go wrong, data center managers are usually not inclined to advertise



save you time and money in the long run.

Follow Through
With Storage Recovery

A storage system coupled with a backup strategy is an obvious necessity in today's IT world. But all too often, storage data recovery plans are lacking when things do go wrong. This is why it is critical to test storage recovery plans to make sure that they not only work, but go beyond just basic data restoration and actually meet business needs before disaster does strike.

As an example, storage recovery strategies might still involve taking a removable drive and backing up the data that needs to be kept. In that case, the data is recoverable, but an enterprise then learns the hard way that when disks fail, it can take a long time to recover the data, says John Matzek, co-CEO of Logic IT Consulting (www.logicitc.com). Instead, data recovery from storage systems should be automated and just take a few minutes. They should not just restore data, but applications, as well.

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Key Points

- Test and make sure that storage recovery plans will deliver when needed by ensuring that business continuity demands are met. Additionally, realize that even backup disks can lose data, so ensure that more than one copy exists.
- Make sure that a policy is in place so that business data is stored where it should be and that superfluous data remains on workstation drives.
- Using modern storage systems is more efficient than maintaining legacy equipment, so, if possible, migrate to more up-to-date systems.

their missteps, especially in scenarios where the problems could have been avoided with better management practices.

However, a lot can be learned from past mistakes, which is why it's important to treat storage problems and their solutions as case studies that offer guidance on how to avoid or resolve future issues. The knowledge you gain from examining problems faced in the past can lead to improved practices and can

kept. In that case, the data is recoverable, but an enterprise then learns the hard way that when disks fail, it can take a long time to recover the data, says John Matzek, co-CEO of Logic IT Consulting (www.logicitc.com). Instead, data recovery from storage systems should be automated and just take a few minutes. They should not just restore data, but applications, as well.

Recycling IT Equipment
E-Waste Considerations

by William Van Winkle
• • •

IN A PERFECT WORLD, every piece of IT equipment would be made from 100% recycled material, would itself be 100% recyclable, and, if unsalable, would be picked up for a small fee from your back dock just like your paper and cardboard. Unfortunately, today's tech recycling scene is far from perfect. The question today isn't "What should enterprises do?" but "What can they do, and what recycling requirements might apply to them?"

Key Points

- Recycling IT equipment through resale is the greenest option, but it still carries significant costs in labor.
- Government-level recycling laws are non-existent at the federal level and sporadic among states. Fees may be assessed in some regions for unlawful disposal.
- Look for recyclers that adhere to the best practices espoused by R2 and e-Stewards.

Possible Paths

At the outset, it's important to distinguish what options exist for equipment "recycling," a term that currently encompasses reuse, reselling, or disposal for materials reuse. David Daoud, director of PC and green IT research at IDC, breaks the options down into a handful of categories. To illustrate, he recently completed a study of the costs associated with an enterprise "recycling" of an average desktop PC. Topping

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Recent data from Net Applications indicates that Firefox increased its browser market share in March by 0.3% to 24.5%, which is the first time in the past four months that Mozilla's Web browser has seen an increase. Google's

According to TechServe Alliance, the availability of IT jobs slowed down last month. Although 162,000 jobs were introduced in the overall U.S. workforce, the IT analyst firm reported a 0.05% fall in employment opportunities—a loss of about 1,800 jobs—for IT personnel in March. But despite last month's losses, January and February saw an increase of 18,000 IT jobs. Insurance-related IT jobs have taken the biggest hit, with a 0.42% drop, while jobs in the telecommunications field fell 0.4%. As compared to March 2009, overall IT jobs have dropped by 2.26%, and



demand for H-1B visas has been lower than previous years. Additionally, according to data from the Bureau of Labor Statistics, 200,000 people identifying themselves as IT pros are still without a job, putting the IT profession at a 6.2% unemployment rate, compared to 4.9% for management positions. However, despite the decreases both the BLS and the TechServe Alliance are optimistic about the future of the IT job market.

Researchers at North Carolina State University have discovered that a new memory management technique could speed up applications by up to 20% on systems running multicore processors. The researchers found that software that has trouble utilizing more than one core in a multicore processor tends to require more than the usual amount of memory management. To solve this problem, the researchers determined that the dynamic management functions aspect of the software execution could be separated out and assigned to a dedicated thread, which could then be processed on another core, in parallel. This new thread is what the researchers are calling the memory management thread, or MMT. Yan Solihin, one of the researchers involved in the project and associate professor of electrical and computer engineering at NCSU, said that software developers who want to take advantage of the new technique can do so by simply linking to the MMT library from their client-side and server-side software.

HP completed its acquisition of 3Com this month for a sum of about \$2.7 billion, or about \$7.90 per share in cash. HP says it plans to integrate 3Com's network switching, routing, and security products with its own HP ProCurve solutions in order to offer its customers a more comprehensive portfolio. Further, the company says the move to acquire 3Com solidifies HP's Converged Infrastructure strategy, which involves the integration of servers, storage, networking, management, facilities, and services. Additionally, HP

This information provides a quick glimpse of current and historical stock prices and trends for 13 major companies in the technology market.

Company	Symbol	Year Ago	April 1 \$	April 15 \$	% change from previous issue
AMD	AMD	\$3.57	\$9.37	\$10.16	▲ 8.43%
CA	CA	\$17.89	\$23.29	\$23.06	▼ 0.99%
Cisco Systems	CSCO	\$18.08	\$25.83	\$27.21	▲ 5.34%
Dell	DELL	\$10.88	\$15.05	\$16.86	▲ 12.03%
Google	GOOG	\$388.74	\$568.80	\$595.30	▲ 4.66%
HP	HPQ	\$36.60	\$53.24	\$54.23	▲ 1.86%
IBM	IBM	\$101.43	\$128.25	\$130.89	▲ 2.06%
Intel	INTC	\$15.89	\$22.39	\$24.22	▲ 8.17%
McAfee	MFE	\$35.72	\$40.33	\$40.76	▲ 1.07%
Microsoft	MSFT	\$19.76	\$29.16	\$30.87	▲ 5.86%
Oracle	ORCL	\$19.18	\$25.46	\$26.20	▲ 2.91%
Red Hat Software	RHT	\$18.28	\$29.94	\$31.67	▲ 5.78%
Symantec	SYMC	\$17.02	\$16.77	\$16.98	▲ 1.25%

NOTE: This information is meant for reference only and should not be used as a basis for buy/sell decisions.

Federal Desktop Core Configuration Far From Completion

According to a report by the U.S. Government Accountability Office, no federal agencies have yet completed all the requirements of the FDCC (Federal Desktop Core Configuration) initiative. The Office of Management and Budget created the FDCC in 2007 with the goal of increasing information security and reducing IT costs. The FDCC presents a six-step plan for agencies to follow, including submitting an implementation plan, applying the stated changes, and submitting a report to the National Institute of Standards and Technology. The report notes that although agencies have taken certain actions, the overall process has yet to be completed by a single one.

Forrester Announces Increased Growth Predictions

Citing surprisingly strong communications equipment sales, Forrester Research modified its earlier predictions that U.S. IT spending would increase by 6.6% this year; the analyst firm now believes spending will rise by 8.4%. Forrester also decreased its global IT market growth predictions from 8.1% to 7.7% due to the surprising strength of the U.S. dollar as compared to the Euro, which was weakened by recent financial problems in Greece. The strongest product categories for 2010, according to Forrester analysts, are computer equipment and software.

Wind Power Sails Forth

Wind energy continues to gain traction in the United States, although related manufacturing growth slowed a bit in 2009, according to the latest market report from the American Wind Energy Association. Cumulative wind power capacity has vaulted up to more than 35,000 megawatts, with about 10,000MW of that total having been installed in 2009 alone. That figure accounts for 39% of the new energy capacity built during the year. In all, America’s wind energy base provides the power of three major nuclear plants, according to the AWEA, and does so with a carbon dioxide emission reduction of about 10.5 million car exhausts’ worth.

HP Makes Advances In Memristors

Researchers at HP Labs have developed advances in memristor technology that they say could change the way computers are designed in the future. The memristor, or memory resistor, is a nonvolatile storage mechanism that’s denser, speedier, and more power-efficient than flash memory. Now, new research at HP shows that the memristor can also perform logic operations on the data it stores, potentially replacing silicon transistor-based CPUs and traditional storage mechanisms in one go. Free of silicon’s vulnerability to radiation and buildable much smaller than silicon-based transistors, memristors could make it possible to develop instant-on mobile devices and computers with higher speeds and lower power requirements.

Microsoft Discontinues Original Vista Support

Microsoft announced that support for its original version of Vista, commonly referred to as the RTM (release-to-manufacturing) version, was discontinued on April 13. Microsoft said that users still running the first version of Vista will receive a limited amount of support, including break/fix troubleshooting and assistance in upgrading them to a supported version of Vista with either SP1 or SP2. Microsoft released its newest OS, Windows 7, in October; it’s likely that most of Windows XP’s 64% market share will shift to Win7 next instead of Vista, which only holds a 16% share.

GAO Calls Media’s Piracy Data Into Question

According to a report from the GAO (Government Accountability Office), the impact of Web media piracy on the entertainment industry is significant and harmful; however, the agency

says the data used to quantify the film and music industries’ evidence for the destruction of business isn’t trustworthy. The GAO revealed that counterfeiting and piracy have produced negative effects on U.S. sales, brand value, and innovation; however, these effects are broad-ranging and difficult to quantify overall. Although no single method can be used to measure the number of pirated media, the impact on the economy is still a true concern.

Zeus Botnet Activity

According to RSA, EMC’s security arm, as much as 88% of Fortune 500 companies have computers that are infected with the Zeus Trojan horse to varying degrees. RSA’s FraudAction Anti-Trojan group was able to link stolen data to the IP addresses and email accounts of affected corporations and then trace the stolen data back to the computers used in the Zeus botnet. Almost two-thirds of infected companies had stolen email accounts. The study did not take into account some larger companies such as Google. One interesting finding was that smaller companies with infected machines had a higher rate of illegal activity from Zeus.

A Year Later, Conficker Vulnerabilities Remain

Even a year after the Conficker worm emerged and the vulnerability was corrected, some 10% of Windows systems still have not been patched. The Conficker botnet, consisting of about 5 million to 7 million machines, is still intact, and hundreds of thousands of Windows systems are still at risk. A U.S. Department of Homeland Security committee, called the Conficker Working Group, is deeply involved in efforts to keep Conficker at bay, but the group’s efforts have so far met with little success. Conficker attacks flaws in the Windows operating system to co-opt machines that can then be controlled remotely by Conficker’s authors.

Survey Examines Social Networking

According to a recent Robert Half Technology survey about social networks, CIOs are taking steps to limit employees’ access to such Web sites. Of those queried, a significant portion (38%) has chosen to impose more restrictive rules about the use of social networks; conversely, just 17% have elected to relax policy with regard to social networks. The survey reveals that 23% of the CIOs who participated said they have implemented a stricter personal use policy, and 15% said they have limited business use of social networks. Alternatively, 10% of responding CIOs gave their blessing to business use of social networking sites, and 7% think it’s acceptable for employees to use social networks for personal use. The largest group, 55%, said they have not changed their policies to specifically address social networks.

Study Shows Cloud Delivers Significant Value

Despite years of IT and business executives not always feeling like they are working toward the same business goals, there are signs of changing times, especially when it comes to cloud computing. Meeting business needs is the primary driver for adopting cloud computing, according to a report by Sand Hill Group. In its report, “Leaders in the Cloud,” Sand Hill Group reports that 68% of respondents say they’re spending 0 to 3% of their IT budgets on cloud computing. That’s expected to change dramatically, however. In three years, 16% of respondents expect to spend 30% or more of their IT budgets on cloud computing, 8% will spend between 21 and 30%, 22% will spend between 11 and 20%, and 24% will spend between 7 and 10% of their IT budgets on the cloud.

Consumers File Lawsuit Against McAfee Over Pop-ups

McAfee is facing a class-action lawsuit claiming that the security company tricks consumers into purchasing third-party services and gives out

consumers’ credit or debit card information without their knowledge. The lawsuit, brought on by Melissa Ferrington and Cheryl Schmidt of California, claims that when consumers are downloading McAfee security software, a pop-up appears telling consumers to “Try It Now.”



According to the lawsuit, consumers believe that the pop-up is part of McAfee’s download process and are not aware that they are actually agreeing to a \$4.95-per-month fee from Web advertising company Arpu. The security company is up against charges for state and federal business practice and consumer protection laws.

Federal IT Spending Set For Growth

According to an upcoming report from Input Research, federal IT spending is forecasted to grow at a rate of 5.4% each year, reaching \$111.9 billion by 2015. The federal IT market this year is expected to reach \$95.4 billion, \$86 billion of which will go to contracted IT services. Federal IT spending will be used for working toward data center consolidation; increasing the quality of information security; raising the level of transparency and accountability with the use of social and Web-based technology; and eventually adopting stronger healthcare technology practices, boosting an eco-friendly economy, and enhancing the manufacturing of advanced battery technologies. Some IT budget decreases are expected for some departments, including the Department of Homeland Security, the Commerce Department, and NASA.

Cloud Computing Growing Rapidly But Lacks Policies

Although a majority of companies are deploying or planning to deploy cloud-based solutions in either infrastructure or applications, policies to evaluate security issues related to those deployments are largely absent. A recent Symantec survey notes that fewer than one in 10 companies actually evaluate cloud vendors or train employees to recognize and deal with security issues that may arise. It appears that many companies are simply not going through the correct IT and security channels and are instead committing blindly to cloud-based services that lack security policies designed to protect companies’ cloud-based data. According to Symantec, only about 23% of respondents require that cloud vendors exhibit proof of compliance with SAS 70 or other security protocols.

Report: Indian Outsourcers Need Stronger Security Policies

A new report from Forrester Research indicates that Indian outsourcers use only enough security measures to appease their customers’ concerns. Sudhir Apte, Forrester analyst and author of the report, says that outsourcers are not implementing a holistic approach to protecting data but rather “checking the box” to attain some marketing collateral. Poor employee training, lax access control, and a lack of support from executives for security programs are some of the issues plaguing the outsourcers’ security policies, the report says. In response, large Indian vendors have sought to bolster their security measures by striving for compliance with the BS 7799 security standard, promising greater security transparency, and strengthening physical security. Overall, companies need to implement remote disaster recovery criterion and ensure that vendors participate in the DSCI (Data Security Council of India).

Upcoming IT Events

Are you looking to learn more about data center or IT topics? Network with some of your peers? Consider joining a group of data center professionals. If you have an event you’d like listed, please send an email to feedback@processor.com.

- APRIL -**

Interop
April 25-29
Mandalay Bay Convention Center
Las Vegas, Nev.
www.interop.com
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ISSA Des Moines
April 26
3920 SW Camden Circle
Ankeny, Iowa
www.issa-desmoines.org
.....

AITP Akron
April 27
Akron, Ohio
www.akron-aitp.org
.....

AITP Long Island
April 27
www.aitp-li.org
.....

ISSA Inland Empire
April 27, 11:30 a.m.
Coco’s Restaurant and Bakery
60 West Foothill Blvd.
Upland, Calif.
ie.issa.org
.....

ISSA Baltimore
April 28, 4:30 p.m.
Sparta Inc.
7110 Samuel Morse Drive, Suite 200
Columbia, Md.
www.issa-balt.org
.....

AITP California Southland
April 28
www.aitpcalsouthland.org
.....

ISACA-Combating Computer Fraud
April 29 and 30, 8 a.m.
Platform Labs
1275 Kinnear Road
Columbus, Ohio
www.platformlab.org
- MAY -**

AITP Wheeling-SQL Saturday
May 1
West Virginia Northern Community College
1704 Market St., Room 120A, B&O Bldg.
Wheeling, W.Va.
www.aitp-wheeling.org
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AFCOM St. Louis “Gateway” Chapter
May 11
Schneider Electric Technology Center
807 Corporate Centre Drive
O’Fallon, Mo.
www.afcom.com/afcomnew/stlouis.html
.....

AITP Garden State
May 11
Jim Johnston’s Steakhouse
58 Eisenhower Parkway Mountain Plaza
Roseland, N.J.
tech.groups.yahoo.com/group/aitpgardenstatechapter
.....

AITP Richmond
May 11
2015 Staples Mill Road
Richmond, Va.
www.aitprich.org
.....

PASS Wisconsin SQL Server User’s Group
May 11, 4:30
Microsoft Office
2176 Woodcrest Drive
Green Bay, Wis.
wisconsin.sqlpass.org
.....

AITP San Diego
May 12, 5:30 p.m.
National University-Kearny Mesa Campus
3678 Aero Court
San Diego, Calif.
sandiego.aitp.org
.....

Greater Wheeling AITP
May 12
Wheeling, W.Va.
www.aitp-wheeling.org

PRODUCT RELEASES

The *Processor* Product Releases section includes brief overviews of data center products.

All products listed have been released recently, so use this section to get up-to-date with what's new on the market and to find products you need.

Manufacturers:
Do you have a new product that data center/IT managers would be interested in learning about?
Send your press release or product information to press@processor.com.

CLIENTS

■ AMD Opteron 6000 Series

AMD released a server platform, the AMD Opteron 6000 Series, which features eight- and 12-core x86 processors. The platform includes an enhanced memory controller that supports four channels of DDR3 memory, 50% more DIMM capacity, the AMD 5600 chipset with HyperTransport 3.0 technology, and power management features.

■ Bamboo Solutions BambooPM

Bamboo Solutions released BambooPM, a SaaS-based project management solution based on Microsoft SharePoint. BambooPM makes it easier for project teams to communicate around the world and lets them build interactive work spaces for each project and monitor all projects from a single location. BambooPM costs \$29.99 per month.

■ Eizo ColorEdge CG245W

Eizo introduced its 24.1-inch ColorEdge CG245W, which is an LCD monitor designed to meet the strict specifications of graphics industry professionals. The unit features a built-in calibration sensor, self-calibrating capability, a correlation utility, a 1,920 x 1,200 native resolution, and the ability to reproduce 98% of the Adobe RGB color space.

■ Microsoft Dynamics CRM For Nonprofits & NGOs

Microsoft made a version of its popular Microsoft Dynamics CRM available to nonprofits and nongovernmental organizations. The product provides relationship management functionality and allows customizations for donation and pledge management. It also offers volunteer tracking, campaign management, and online payment features.

■ Oracle CRM On Demand Release 17

Oracle has unveiled Oracle CRM On Demand Release 17, which includes comprehensive forecasting and analytics capabilities. These capabilities include flexible fiscal calendars, revenue and product quantity forecasting, and real-time comparisons between past and present data. Oracle CRM On Demand Release 17 has enhanced usability features, such as its redesigned interface.

■ Panasonic Toughbook C1

Panasonic announced the Toughbook C1, billed as the world's lightest 12.1-inch convertible tablet PC. Offering more than 10 hours of battery life, the model includes twin hot-swappable batteries, an Intel Core i5 processor, and Gobi2000 mobile broadband. The tablet (\$2,499) will be available in June and comes with a shock-mounted 250GB hard drive. Panasonic says the model is suitable for mobile professionals in health care, field service, sales, and other fields.

■ Shuttle Pro Series J1 4100P, G2 7600P

Shuttle announced the Pro Series small form factor workstations, which are ideal for industries where size is an important factor, such as health care and finance, the company says. The Pro Series family (models J1 4100P and G2 7600P) comes with dual-core and quad-core processor options: AMD Athlon II X2/Phenom II X4 or Intel Core 2 Duo/Core 2 Quad



SHUTTLE

processors, along with ATI FirePro or Nvidia Quadro FX professional graphics adapters. Shuttle plans to ship another Pro Series entrant in June; this one will feature Intel's new six-core "Gulftown" Core i7 980X Extreme Edition chip or a Xeon processor.

■ Tangent Medix T22

Tangent announced the 2.8-inch thin Medix T22, a fanless point-of-care, medical-grade terminal with a 22-inch display. UL60601-1-approved and shipping with an optional touchscreen, the IP65-rated Medix T22 is also available with spill-resistant peripherals and medical accessories. The terminal comes with flash, SSD, or HDD storage; 1.5GHz ViaC7 CPU; 1GB DDR2 memory; and optional 802.11 connectivity.

MESSAGING & TELEPHONY

■ Polycom HDX

Pleasanton, Calif.-based Polycom announced expanded features for its HDX line of room telepresence systems. The release features 1080p high-definition video at up to 50% less bandwidth. The purpose of the HDX line of products is to deliver a lifelike collaboration experience, allowing people to work together as if they were in the same room.

■ Tangent DataCove DT

Tangent announced the DataCove DT, an enterprise-class email archiving appliance with enhanced Exchange integration and an operating system that's 20% faster than other DataCove products. The DataCove DT is a plug-and-play appliance that allows organizations to easily and quickly index, archive, and retrieve all electronically stored information, including email, faxes, and instant messages. The appliance supports up to 40,000 users and offers advanced search, digital signing, and up to 20TB of storage. The device also offers Exchange 2007 stubbing, in which content can reside not on the organization's Exchange server, but on the DataCove appliance itself, thus reducing the load on the Exchange server.

NETWORKING & VPN

■ ABP, Patton SmartNode 5200 ESBR

ABP teamed up with Patton to deliver preconfigured units of Patton's SmartNode 5200 ESBR (Enterprise Session Border Router). The fully provisioned and tested SIP trunking solutions can help Internet telephony service providers reduce start-up costs. The SmartNode 5200 includes an advanced IP router, VoIP and VPN security, and least-cost call routing.

■ Aruba Networks Virtual Branch Networking 2.0

Aruba Networks released VBN (Virtual Branch Networking) 2.0, which provides small branch and home offices affordable business-critical IT services, including application acceleration and content security, via a cloud computing approach. VBN 2.0 includes AAS (Application Acceleration Service) to accelerate appli-



cation performance by 20 times without new hardware or software required; CDN (Content Delivery Network) to provide a subscription-based file caching service to speed up application response times; and CSS to reduce costs and complexities involved in protecting data. Aruba is also launching a VIA (Virtual Intranet Access) client to give mobile workers with Windows systems secure access to corporate networks sans a separate, dedicated VPN infrastructure.

■ Codenomicon Network Analyzer

Codenomicon announced the Codenomicon Network Analyzer, a tool for distributed test lab monitoring and network troubleshooting. Designed to give testers clear network traffic data in order to discover network issues, target tests, and monitor testing efforts, the Network Analyzer features the ability to process terabytes of data and automate network aspects.

■ Digi International Digi TransPort WR44

Digi International announced the Digi TransPort WR44, an enterprise-class 3G cellular router. Equipped with Qualcomm Gobi technology, the TransPort WR44 supports either HSPA (High Speed Packet Access) or EVDO (Evolution Data Optimized) from the same radio. The TransPort WR44 features advanced routing, an Ethernet switch, GPS, telemetry, and a Wi-Fi access point.

■ Ericom Software PowerTerm WebConnect For Windows Server 2008 R2

Ericom Software released PowerTerm WebConnect for Windows Server 2008 R2, which includes free enhancements for Microsoft Windows Server 2008 R2 Remote Desktop Services. This solution makes it possible to simplify management and control without the use of third-party solutions. Additions include centralized configuration, management, and monitoring as well as logging and auditing.

■ Ipswitch WhatsUp Event Log Management Suite & WhatsUp Event Rover 3.0

An increase in security and regulatory issues means more companies are benefiting from event and log management tools such as those found in Ipswitch's WhatsUp Event Log Management Suite and



WhatsUp Event Rover 3.0. The WhatsUp Event Log Management Suite includes four modules designed to automate frontline

monitoring and management of Syslogs and Windows event logs created by devices, systems, and servers. You'll receive comprehensive views of user and system activity, along with real-time views. LogRefiner technology lets you work with legacy EVT log files, while WhatsUp Event Rover 3.0 uses LogHealer technology to recover corrupt EVTX files without modifying the content.

■ Limelight Networks Services

Limelight Networks announced an upgrade to its services. Updates include a new version of Limelight SITE, the Content Storage solution for incremental storage upgrades, the Traffic Balancer service, an improved version of Limelight REACH to improve mobile communications, and additional capabilities in Limelight CONTROL, such as visibility into online businesses.

■ ManageEngine ServiceDesk Plus-MSP

ManageEngine announced the latest version of ServiceDesk Plus, its ITIL-ready help desk and asset management solution for MSPs (managed service providers). ServiceDesk Plus-MSP is available in Standard, Professional, and Enterprise editions, each designed to serve the needs of different MSPs. The Enterprise edition starts at \$3,595 for five technicians and 250 nodes.

■ Network Instruments GigaStor

Network Instruments increased the storage capacity for its GigaStor retrospective network analysis product line. GigaStor offers up to 576TB of storage for long-term capture. The GigaStor provides a packet-level view of storage management problems, allowing for consistent monitoring of LAN, WAN, Gigabit Ethernet, 10GbE, OC, and Fibre Channel networks.

■ Opengear ACM5004-G

Opengear announced the ACM5004-G device server, which supports EDGE, GPRS, GSM, HSDPA, and HSUPA cellular technologies. The ACM5004-G offers secure infrastructure management over cellular networks, secure telemetry and SCADA over wireless networks, and always-on remote management with wired to cellular failover.

■ Oracle Tuxedo 11g

Oracle released Oracle Tuxedo 11g, an application server designed for mission-critical C/C++ and COBOL programs. This open, standard-based platform, which is part of Oracle Fusion Middleware 11g, lets users rehost mainframe applications to operate with Oracle Tuxedo 11g. It also offers monitoring tools such as a Web 2.0-based console.

■ Procera Networks PacketLogic PL8720

Procera Networks released the PacketLogic PL8720, a purpose-built, 2U appliance with 10Gbps deep packet



inspection. The PacketLogic PL8720 is specifically designed for customers with accelerating network growth plans to transition from Gigabit Ethernet to 10Gbps Ethernet links. It offers up to eight

PRODUCT RELEASES

10GbE or 16 GbE ports in a single appliance. Instead of a chassis-based system with a higher initial cost of deployment, the PL8720 allows service providers to have lower capital expenditures and operating expenses. With the PL8720, multiple systems can be clustered to support growth up to 80Gbps of throughput in a single deployment.

■ Scalable Software WinINSTALL Lifecycle Management Suite

Scalable Software announced the latest version of its WinINSTALL Lifecycle Management Suite. WinINSTALL 10.1



builds on the previous DAS (Desktop Availability Suite) and is available free to customers already using DAS. WinINSTALL’s features include support for the most recent version of Microsoft’s User State Migration Tool (USMT v4.0), and it supports zero-touch, machine-to-machine, and in-place upgrades from XP and Vista to Windows 7. In addition, upgrades can be made in as little as 30 minutes per machine, without visiting the user workstation. A free 45-day trial of the software is available on Scalable’s Web site.

■ Socket Mobile & 3M Track & Trace Solutions 3M Asset & Inventory Tracking System

Socket Mobile and 3M Track and Trace Solutions announced a flexible, easy, and secure method for tracking, locating, and managing assets. The 3M Asset and Inventory Tracking System will include 3M software, 3M RFID, or barcode tags and Socket Mobile hardware, including the Socket SoMo 650 handheld computer and the dual-function Socket CompactFlash RFID Reader-Scan Card 6P.

■ SolarWinds Network Device Monitor

SolarWinds launched its Network Device Monitor, which is a free utility that lets users monitor the real-time performance and health of almost any SNMP-enabled network device. Users can collect statistics, CPU speed, battery status, fan temperature, and more. SolarWinds has also integrated Content Exchange, so users can leverage community-generated content.

■ Sybase Afaria 6.5

Sybase announced the upcoming Afaria 6.5, which supports the iPad and Android devices. With Afaria 6.5, the mobile device management and security software will let IT personnel manage and enforce security policies, perform remote kill for lost or stolen devices, and block unauthorized devices from accessing corporate data. Additionally, Afaria 6.5 will implement enhanced scalability for on-premises iPhone and iPad deployments as well as when they are managed in a hosted environment. Afaria 6.5 is set to be released in the second quarter of 2010.

■ Technisource Windows 7 Migration Service

Technisource launched its Windows 7 Migration service, which offers a customizable and flexible planning process. Migration capabilities include client-specific planning, migration risk reduction, preservation of user productivity, and post-migration support. Technisource’s solution is designed to soften the impact of migration on IT budgets and staffing.

■ Thinklogical VX 320 Router & VX 40 Router

Thinklogical announced the VX 320 Router and the VX 40 Router. The VX 320 Router is a nonblocking 320x320 matrix switch and is capable of routing and switching up to 320 KVM or video sources to 320 KVM or video destinations. The VX 40 Router is a compact 40x40 model.

■ Voxel dot Net Private VoxCLOUD

Voxel dot Net released the Private VoxCLOUD, a turnkey platform that lets customers deploy fully supported private clouds in their own data centers. Private VoxCLOUD features comprehensive APIs, deep reporting options, and instant deployment of physical and virtual infrastructure. It offers the flexibility to move applications between a Private VoxCLOUD installation and public VoxCLOUD resources.

PHYSICAL INFRASTRUCTURE

■ Adder CATxIP 5000 KVM-Over-IP Switch

Adder’s CATxIP 5000 KVM-Over-IP switch offers SMEs an affordable and easily configured KVM-over-IP solution. The 16-port CATx KVM switch delivers four independent access sessions over a LAN or WAN infrastructure using TCP/IP together



with one local user. The CATxIP 5000 includes Real VNC viewers to offer an intuitive yet feature-rich user experience, and it includes the ADDER.net network management suite. The suite offers enterprise-scale management of IP control devices and virtual servers, and it includes two main components, Management Suite and Connection Suite, which allow different user levels to gain varying degrees of administrative access. For more on this product, see page 7.

■ Aten Console Extenders

Aten released five console extenders that use CAT 5 cabling to let users control servers or KVM switches from remote locations. The USB-based extenders range in price from \$200 to \$700 and are suitable for factory/manufacturing, environment/construction, security/surveillance, healthcare/hospital, and other settings.

■ Para Systems Minuteman PRO-RT

Businesses have two new power protection options for their servers, phones, and security systems, thanks to the new Minuteman PRO-RT Series of UPSes from Para Systems. Available in a 1,000VA (PRO1000RT) configuration for \$279 and a 1,500VA (PRO1500RT) incarnation for \$359, these UPSes provide a great deal of coverage for the money. Minuteman says they serve as an “electrical firewall” against the threats of surges



and spikes while providing brownout protection via automated voltage regulation. The UPSes address potential blackouts as well, providing longer battery runtime for your equipment than the competition, the company says. Green features such as

90% efficiency and “vampire” power draw reduction are standard. For more on this product, see page 7.

SECURITY

■ AEP Networks Keyper v2

AEP Networks announced the availability of AEP Keyper v2, its cryptographic HSM solution designed for managing mission-critical applications demanding maximum security. Keyper’s features include certification to FIPS 140-2 and Level 4, a new user interface, and operator and security officer smart cards.

■ Fortinet FortiOS 4.0 Maintenance Release 2

Fortinet released FortiOS 4.0 maintenance release 2. Features include more comprehensive antivirus engines, improved endpoint security, balanced antivirus inspection, and increased network visibility. This update includes support for the new FortiMobile SSL VPN client for the iPhone and iPod touch. It’s available as a free upgrade for existing FortiGate customers.

■ Innovative Routines International FieldShield

Innovative Routines International introduced FieldShield, a tool that protects document fields that include personal identification information with AES-256 encryption. Using simple job scripts, FieldShield’s protection and formatting functions let users hide information based on data or destination. Features include masking, filtering, and redacting.

■ Iron Mountain Connected Classify & Collect

Iron Mountain released Connected Classify & Collect, software designed to simplify the process for collecting distributed PC data when complying with legal hold requests. In addition to helping enterprises find relevant data on systems quickly, Iron Mountain says the offering goes beyond cloud storage to support customers with on-premises requirements.

■ McAfee & Riverbed Technology WAN Optimization Solution

McAfee and Riverbed Technology partnered to create a WAN (wide-area network) solution designed to offer comprehensive security for remote offices by combining a virtual instance of McAfee Firewall Enterprise software and the Riverbed Steelhead appliance. Features of the solution include accelerated data delivery and application access while keeping information safe.

SERVERS

■ Fujitsu PRIMEQUEST 1800E

Fujitsu announced the release of PRIMEQUEST 1800E, the latest addition to the company’s x86 server family. The 1800E servers include eight-core Intel



Xeon 7500 series processors and feature a reduction in physical size, weight, and power consumption. The environmentally friendly server includes both Linux and Windows operating systems.

■ Fujitsu PRIMERGY RX600 S5 Rack Server & BX960 S1 Blade System

Fujitsu launched its latest high-end quad-socket PRIMERGY servers, which

are ideally suited to meet the system performance, scalability, and resilience demands of RISC-based environments. The PRIMERGY RX600 S5 rack server and PRIMERGY BX960 S1 blade system x86 servers are capable of fault resistance, making them perfect for business-critical applications and large-scale system consolidation. The servers support up to four Intel Xeon 7500 Series (Nehalem-EX) processors with 32 cores and are capable of processing up to 64 threads at once. The Fujitsu PRIMERGY BX960 S1 and RX600 S5 servers will be available next month.

■ IBM System x3850 X5 & BladeCenter HX5

IBM announced two eX5 models, the System x3850 X5 and the BladeCenter HX5. The products are designed to support large databases and virtualized environments; deliver a flexible, scalable infrastructure; and cut the number of necessary servers in half. The systems run on Intel Xeon 7500 Series processors.

■ RAID 1U Fusion Quad-Socket Nehalem EX Server Solution

RAID unveiled its 1U Fusion Quad-Socket Nehalem EX server solution with up to 32 processing cores and 512GB of RAM, which the company says is the most computing power in the smallest form factor on the market. Four sockets are available for Intel’s eight-core Nehalem-EX chips, which feature Machine Check Architecture Recovery and other reliability/availability/serviceability technologies.

■ RAID Fusion MAGNABlade

RAID released its Fusion MAGNABlade solution, a high-density blade system designed to hold 20 Intel Xeon 5600 or 5500 dual-socket nodes with up to 2.5TB of memory. The 7U chassis’ power efficiency can help reduce operating costs up to \$1,000 compared to discrete 1U servers, RAID says. The Fusion



RAID

MAGNABlade comes in several application-optimized models, including the Enterprise Blade Server, Data Center Optimized Blade, Workstation Blade, and Personal Blade. Some of the primary benefits of the Fusion MAGNABlade include InfiniBand QDR support, up to six SuperBlade chassis (up to 84 blades in a single rack), and optional Blade 4X DDR InfiniBand/Gigabit Ethernet Switch Modules.

■ SGI Altix UV 10

SGI released a quad-socket server for the HPC, enterprise, and Internet markets. The Altix UV 10 is compatible with Intel’s Xeon 7500 Nehalem-EX processors. It’s a standard-depth 4U rackmount unit with room for eight hot-swappable 2.5-inch drives, 10 high-I/O expansion cards, and 512GB of shared memory.

■ Supermicro 8-Core Intel Xeon SuperServers

Supermicro introduced its line of eight-core, four-way Xeon servers, the 8016B-6F, 8016B-TF, 8026B-6RF, 8026B-TRF, 8046B-6RF, and 8046B-TRF SuperServers.

Go to Page 6

PRODUCT RELEASES

Continued from Page 5

The servers are designed for Intel’s eight-core Xeon 7500 Series processors, offer support for up to 256GB of memory, and exhibit 93% or better energy efficiency, making them ideal for enterprise virtualization applications.

■ Supermicro 8- & 12-Core AMD Opteron 6100 Series Servers

Supermicro introduced servers based on AMD’s eight- and 12-Core Opteron 6100 Series processors, including the 2U Twin2. The servers feature GPU-optimized systems and support up to 1TB of quad-channel DDR3 and optional 40Gbps QDR InfiniBand connectivity, making them appropriate for IT, data center, HPC, and cloud computing applications.

■ Supermicro Platinum Level SuperServers

Supermicro announced its latest servers, which have a 94% or better power supply and have earned 80 PLUS’ Platinum Level certification. The SuperServers are convertible towers 2U to 4U tall. Available features include a UIO interface, QDR/DDR InfiniBand, Fibre Channel, 6Gbps SAS, and 10Gbps Ethernet.

STORAGE

■ Atempo, OpenCube Technologies Atempo Digital Archive

Atempo announced a partnership with OpenCube Technologies that will integrate OpenCube’s MXF management software with Atempo Digital Archive. This will let Atempo customers incorporate the archiving of MXF-format data files into

their workflows, and it will allow for partial and full restores of MXF data.

■ Barracuda Backup Server 990

Barracuda Networks released its Barracuda Backup Server 990 for organizations needing onsite backup for large volumes of data. The server has 24TB of internal storage and features more efficient backup transfer methods for faster transfer of data. The server can also be combined with a Barracuda Backup Subscription for off-site storage.

■ B&L Associates Archived Data Manager

B&L Associates released a version of its ADM (Archived Data Manager) that runs on Linux operating systems and Oracle databases. ADM is a Web-based application used to consolidate historical backup catalogs and can identify archived information that might be needed for litigation.

■ Dot Hill AssuredSAN 3930R, 3920R, 3730R & 3720R

Dot Hill announced its next-generation AssuredSAN 3000 Series disk-to-disk data protection appliances. Starting at \$20,200 fully populated with drives, the AssuredSAN 3000 Series comes in various 8Gbps Fibre Channel and FC/iSCSI models with either 2.5-inch or 3.5-inch drive bays. Its software suite includes the company’s AssuredRemote remote replication app.

■ GreenBytes GB-1000

GreenBytes released the sub-\$10,000 GB-1000 SAN/NAS device, which is the latest addition to the company’s GB-X series of deduplicating storage appliances.

The 4TB device operates in either data protection or primary storage environments and delivers real-time deduplication and restore performance. The GB-1000 is ideal for virtualized environments and offers simultaneous support for SAN and NAS connectivity.

■ Quantum Scalar i6000 & Vision 4.0

Quantum announced the Quantum Scalar i6000, an enterprise tape library designed to handle high data growth as well as tape consolidation in tiered storage environments. The Quantum Scalar i6000 includes Quantum’s iLayer software for archiving and management and offers 12 modules that can hold more than 5,300 cartridges and store up to 16PB of data with LTO-5 tape drives. Quantum also announced the latest iteration of its Quantum Vision software, Vision 4.0, which is designed to enhance centralized monitoring and reporting of tape libraries and DXi-Series disk backup products by using tiered storage.



■ TDK Life On Record LTO Ultrium 5

Imation’s TDK Life on Record brand announced LTO Ultrium Generation 5 media with a 1.5TB native/3TB compressed capacity. The partitionable backup media offers file control and space management and can support transfer speeds of up to 280MBps with compressed data, TDK says. Also supported are WORM recording and hardware encryption.

■ TDK SHG2A

TDK announced the SHG2A series of half-slim SSD modules. The SHG2A modules have a maximum capacity of 32GB and are about one half the size of a 1.8-inch HDD. The drives support an effective read speed of 95MBps and an effective write speed of 55MBps.

■ WD Scorpio Blue 750GB

WD announced the Scorpio Blue 750GB 2.5-inch, 3Gbps SATA hard drive for notebooks, the highest capacity for the form factor. Features include Advanced Format technology to increase media format efficiencies, WhisperDrive technology to improve power consumption and data seeks, ShockGuard to protect platters and drive mechanics, and SecurePark to protect the recording head.

■ Western Digital 450GB & 600GB VelociRaptors

Western Digital unveiled its latest WD VelociRaptor 10,000rpm SATA hard drives with 450GB (\$299) and 600GB (\$329) capacities. The drives are ideally suited to blade servers, high-performance PCs, Mac computers, professional workstations, and 1U and 2U rack servers.

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ADDER CATxIP5000

NEW PRODUCT

by Rod Scher

Affordable KVM-Over-IP For Everyone

AS LOCAL- AND wide-area networks expand and the global workforce looks for ways to operate efficiently irrespective of geographical boundaries, Adder continues to find innovative ways to help fuel that efficiency.

Adder, computer control experts for the past 25 years, has released the CATxIP5000, an affordable and easily configurable KVM-over-IP solution.

The CATxIP5000 has an introductory price of \$1,750—about half the typical price of devices with similar functionality. It's a 16-port CATx KVM switch that delivers four independent access sessions over the standard LAN and WAN infrastructure. The product is ready to use out of the box, with minimal setup and configuration required.

Adder CTO Nigel Dickens says, “We are really proud of this new technology, which we perceive as being market disruptive in terms of the price, space, and power advantages it offers to customers.”

A key benefit of the new product, says Dickens, is its high performance-to-price ratio. “It's all down to the uniqueness of the design concept, aspects of which are very different from existing KVM-over-IP solutions.”

Those differences include the integration of Real VNC viewers to offer an intuitive yet feature-rich user experience as well as inclusion of the ADDER.net network management suite. The suite offers enterprise-scale management of IP control



Adder CATxIP5000

A 16-port CATx KVM switch that delivers four independent access sessions over the standard LAN and WAN infrastructure \$1,750

devices and virtual servers, and it includes two main components, Management Suite and Connection Suite, which allow different user levels to gain varying degrees of administrative access. Because the tools are fully integrated with Active Directory, users can easily be authenticated against an existing infrastructure.



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PARA SYSTEMS MINUTEMAN PRO-RT SERIES UPSes

NEW PRODUCT

by Marty Sems

Defend Your Equipment & Your Wallet

YOU COULD BE forgiven for assuming that Para Systems endows its Minuteman PRO-RT UPSes with fewer features than it actually does. After all, with pricing starting at \$279, these new UPS systems couldn't be very remarkable, could they?



Para Systems Minuteman PRO-RT Series

Green UPS models that provide long battery runtimes and long warranties for the money. \$279 (PRO1000RT), \$359 (PRO1500RT)

Don't kid yourself. The PRO-RTs are worth a closer look.

Minuteman Power Technologies packs the PRO1000RT (1,000VA) and the PRO1500RT (1,500VA) with more backup power than you might anticipate. That translates to more time for your company to safely shut down mission-critical equipment in the event of a power outage. More battery runtime equals fewer problems, which equal less unnecessary

downtime, which equals more money your enterprise keeps in its pocketbook.

The PRO-RT Series is engineered to help with your power bill, too. Minuteman's SentryPlus software—including as a standard feature—lets you set the PRO1000RT and PRO1500RT to automatically turn off equipment outside of business hours and then power it back on as scheduled.

Moreover, the floor- or rackmountable PRO-RTs are good electrical citizens. An LCD provides visual notification of power status, and intelligent circuitry bypass features mean the UPSes draw barely any power when idle, assuring you that they'll never give you cause to worry about so-called “vampire” power consumption.

Of course, the Minuteman PRO-1000RT and PRO1500RT also guard your gear from the effects of surges and spikes. Smart voltage regulation lets them maintain a continuous supply of power to your valuable equipment during sags and brownouts, too.

The PRO-RT line is well-suited to your company's PCs, servers, phones, VoIP systems, and other crucial electronics. Options include a wallmount bracket and an SNMP card slot; a lengthy three-year warranty comes standard.



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PDU's Direct To You

Top Quality At The Lowest Price Available

by Blaine Flamig

PREMIUM POWER DISTRIBUTION without the premium price. Such a notion may sound too good to be true in today's sagging economy, but such an approach is precisely the customer-oriented mission PDU's Direct (www.pdusdirect.com) was built on and continues to operate by.

As the online wholesaler of basic, metered, and switched PDUs from long-time PDU maker Server Technology's product line, PDU's Direct is dedicated to providing its customers the highest quality in-rack power strips, power distribution, and rack PDUs offered at best-in-class prices.

Established in November 2008 at the outset of the economic downturn, PDU's Direct understands the financial, cost-cutting challenges now facing SMEs. That's why PDU's Direct is committed to supplying its customers with industry-standard, industrial-grade PDUs suitable for network and server environments at prices falling 10 to 20% below competitors' online prices. PDU's Direct's customer commitment extends

to the company's easy-to-use, uncluttered Web site, which makes locating the right PDU a quick, streamlined process without skimping on the pertinent product information customers require.

PDU's Direct's dedication to its customers is seen through its next-business day shipping policy; 100% satisfaction, 30-day money-back product guarantee; and ultra-convenient email and live chat technical support options. Whether the question or concern is in regard to a product, order, or application, PDU's Direct's chat support pairs customers with live operators who possess years of real-world PDU experience and knowledge. Customers can even request a chat transcript for reference following a chat session.

PDU's Direct power distribution units are constructed in steel-case enclosures, available in a variety of outlet and power-level configurations, and ship with a customer-selected power cord. Each switched PDU sold also includes the latest firmware from Server Technology and fully networked outlet management and power and environmental monitoring abilities. P



Lessons Learned In Storage Management

Continued from Page 1

“One lesson I learned was that in order to have business continuity, not only do you have to restore your data, but you have to get people to be able to work again quickly and to be able to access and use the data,” Matzek says. “If your email system goes down and your files are on some backup system, it does you no good unless you can get the email system back up and running quickly.”

Take Care With Removable Drives

Suppose your storage system works like it should—a drive goes bad on a server or workstation, but the problem is only a matter of minor inconvenience because a replacement drive on which relevant backup data has been stored is ready to be added to the machine. But if you are reinstalling the operating system and plugging the drive in with only one copy of your backup on that drive, then there is always the chance that you could accidentally erase the drive, Matzek says.

“You put in the disk and [the operating system] prompts you to reformat the hard drive and you select ‘yes,’ so then it formats the removable drive that has your only backup,” Matzek says. “The lesson learned is that a backup isn’t a backup unless you have more than one copy. This also shows how you always need two backup sources so that if one doesn’t work, then you always have the other one.”

Free Up Capacity

Storage media prices may have plummeted, but many enterprises are still scrambling to maintain the necessary capacity in order

to keep up with the explosion in data storage demands.

“Not surprisingly, the biggest problem has been in dealing with storage growth issues,” says Clive Longbottom, who serves as the service director of business process facilitation at Quocirca (www.quotcirca.com). “Voice and video creeping into the business are making storage volumes grow exponentially, and this leads to knock-on effects.”

Meanwhile, backup windows are decreasing, backup times are increasing, and regulatory compliance is becoming more difficult, and, as a result, some business processes are negatively impacted, Longbottom says. “Just throwing more resources at the issue isn’t working, and the mantra that storage is getting cheaper all the time does not address any of the problems mentioned above.”

The hard lesson learned by many enterprises is that it is necessary to more tightly manage what is stored and where. “Organizations have to get a greater hold on what they have within their data assets,” Longbottom says. “Whereas a complete

clampdown on iTunes, YouTube, and other less business-oriented sources may not be possible, keeping such files out of Tier 1 or 2 storage and away from backup sets is reasonably easy to do and can have a massive impact on the amount of enterprise storage needed.”

At the same time, the vast majority of desktop PCs have massively underutilized disk storage capacity, Longbottom says.

“Not surprisingly, the biggest problem has been in dealing with storage growth issues.”

- Quocirca’s Clive Longbottom

“The business data [from PCs] should be held on a network drive, and so these 320GB drives are holding the operating system and a few applications only,” he says. “Instead, redirect personal storage [to these underutilized PC drives] and let the user

Best Lesson Learned: Mix & Match RAID Drives

It seems intuitive enough: Using the same exact drives in a RAID configuration helps to ensure compatibility. However, problems can occur when RAID volumes with five or more of the same drives also come from the same production batch. For example, several of the drives may fail within a short period of time or an entire batch of drives might have a bug, and although they may not physically crash, they might fail to deliver the required performance, says Haim Sternberg, president and owner of Cherry Systems (www.cherrysystems.com). “Our recommendation is to install drives with similar capacity or even models but from different production batches,” he says. “We had this very thing happen to us several years back, when in a matter of a couple of days, three out of the five drives in our server RAID failed and they were just a few serial numbers apart. Live and learn.”

Recycling IT Equipment

Continued from Page 1

the list of options is cascading, the practice of handing a system down the employee chain to users with less demanding or critical task sets.

“It costs roughly \$468 to manage that PC moving from office A to office B,” says Daoud. “That number is mostly labor costs. It costs someone to come remove the asset, clean the system, reimage it, put in new software, etc. Whether it’s better to spend \$468 to move a PC to the next employee or \$1,000 for a brand-new system will depend on business priorities, but cascading is practiced by 21.4% of U.S. companies.”

Donation, practiced by 40.2% of companies, according to Daoud, costs almost as much. All of the data wiping and labor still rings up at \$398 before any potential charitable donation benefits. About 30% of companies will sell systems to employees, and the \$65 or so paid for the PC helps drop the expense to \$344. Unfortunately, 7.5% of businesses toss systems straight into the landfill, but this still requires \$255 in data cleansing labor.

Remarketing

“Remarketing is the lowest cost option,” says Daoud. “That’s \$192 and practiced by roughly 18% of companies. The low cost is from the residual value you capture from reselling those assets into the secondary market, assuming there is demand. We’re figuring a \$175 residual value.”

In general, IT equipment purchased new within the past two to three years will still have a fair amount of residual value. Beyond that, the only hope is to find a demand niche. Brent Young, director of

business development at E-Tech Recycling (www.etechrecycling.com), quips that about the only things of value in an old server now are the easily broken hot-swap hard drive sleds some systems feature. With desktops, prospects can be hit or miss. “If it’s a Pentium II or Pentium III, there’s no market,” he says. “If it’s a Pentium 4 or an original Pentium, there might be.”

Naturally, the resale prospects for a given type of IT equipment will vary. According to Brian Musil, founder of Recycle Your Media (www.recycleyourmedia.com), tape recycling values are very attractive. A 1,000-unit lot of used IBM 3592 tapes will fetch \$30 per tape, and “\$30,000 is not an amount a corporation can pass up in this economy.” The media is surprisingly resilient. RYM has a 25,000-square foot building “full” of tape, and Musil says that at least 90% of it will be reused.

A Regulatory Rat’s Nest


Despite the resale value, Musil says that the industry as a whole is recycling less than 3% of its backup tapes, while “toner and inkjet recycling is at about 33%. I feel that we should be at that level, and to get there, we need to really standardize processes and create better awareness that recycled data tape media is a viable, reliable, and economical option.”

Therein lies the problem with IT recycling. There is no general mandate or body of law in place to guide American businesses, impose fines, or offer incentives. The closest thing to a federal recycling body is the Environmental Protection Agency’s eCycling program. Some electronic devices, such as CRT monitors, are classified as hazardous waste, yet it’s still acceptable for companies to dispose of up to 220 pounds of hazardous waste

per month unless otherwise regulated by state law.

With federal authorities essentially at a standstill on tech recycling and end-of-life disposal, responsibility has fallen to individual states. According to NERIC (National Electronics Recycling Infrastructure Clearinghouse; www.ecyclingresource.org), there are now 20 states and the municipality of New York City with e-waste laws. Of these, California is the only one with a consumer-burden plan, meaning that a \$6 to \$10 advance recycling fee is imposed on video display devices at the point of sale. Most other areas have manufacturer-burden plans that assess up to nearly \$25,000 on manufacturers selling electronic devices into that state. Except for Oregon and Washington, no two sets of state recycling laws look similar, making it difficult for businesses to comply across state lines.

Reliable Recyclers

Recycling any sizable amount of IT equipment will require a robust recycler, and enterprises should have concerns about how materials are processed after changing hands. The EPA created a set of best practices for recyclers known as R2 (Responsible Recycling; tinyurl.com/y435p63). R2 guidelines are voluntary for recyclers, and some view them as being too lax on issues such as waste exporting and use of prison labor for materials processing. Alternatively, more stringent guidelines can be found in the e-Stewards (www.e-stewards.org) standard and certification program, created and operated by the Basel Action Network. 

Questions For Your Recycler

Getting paid for e-waste is great, but sometimes a business can feel lucky just getting equipment out the door with no fees attached. Discussions with prospective recyclers can help improve a business’s prospects on this front. Brent Young, director of business development at E-Tech Recycling (www.etechrecycling.com), suggests asking recyclers the following questions:

- What will it cost to have the material picked up?
- How much can be saved by having the e-waste palletized on a loading dock?
- Are there charges for shipping the e-waste to a recycling facility?
- Are there charges for the actual shredding and/or recycling of the e-waste? Some materials are tied to disposal or recycling fees.

“Look at those costs vs. solid waste,” says Young. “How much are you paying by the ton to have your garbage picked up? If you do your homework, you find in most cases that it’s cheaper to pay for recycling than it is to pay for landfill disposal.”

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9	2.5 A	13	0.6 A
10	0.6 A	14	0.5 A
11	TRIPPED	15	4.0 A
12	0.5 A	16	2.1 A
Total:			1.31 kW

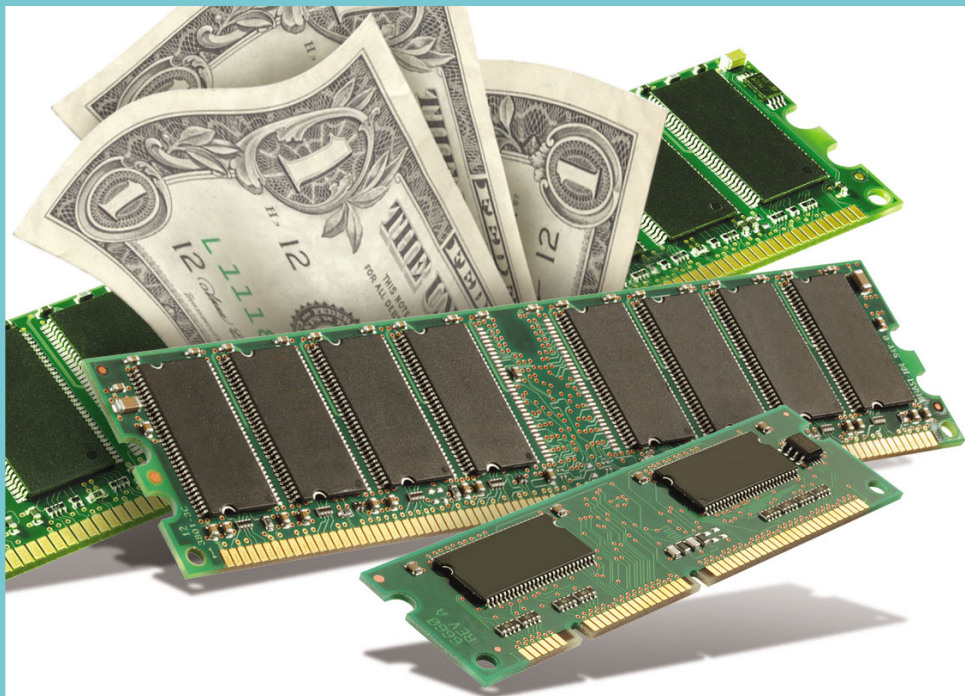
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For more Upcoming IT Events, see page 3.

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Compliance Concerns

There Are Many Important Lessons To Be Learned When Dealing With PCI & Regulatory Compliance

by Chris A. MacKinnon

PCI AND REGULATORY COMPLIANCE are typically not that high on the priority list for IT and data center managers in small to mid-sized enterprises. But according to the experts—and many other managers could likely attest—these issues can cause big problems when they are overlooked. Managers need to take past mistakes into consideration and spend more time on items including security strategies, monitoring, logs, mail archiving, and e-discovery.

It's About Compliance

Bob Russo, general manager of the PCI Security Standards Council (www.pcisecuritystandards.org), says data security is not all about prevention—it also requires detection and monitoring. Russo stresses that proper monitoring can do a lot to detect and eliminate additional issues in the event of a data breach or credit card fraud, adding, “It’s important to review data center logs and employ ongoing monitoring.” He says

requirement 1.2.1: deny everything that is not specifically allowed.

Carter says IT managers are struggling to address their e-discovery needs and are not filtering and logging Web 2.0 traffic for regulatory compliance. She notes, “Federal regulatory agencies are now requiring corporations to track all online conversations, email, instant messaging, chat, and blog content as part of compliance with regulations such as the SEC, Sarbanes-Oxley, and HIPAA.” Carter says all of these online conversations and exchanges need to be logged, archived, and able to be retrieved for regulatory compliance. Failure to comply, she notes, can cost a company millions of dollars.

Advice For Managers

When it comes to data logging and monitoring, Russo has good advice for data center and IT managers. He says it’s not enough to “set it and forget it”—you have to be checking these things every day. In addition to software monitoring options, Russo recommends that you consider physical surveillance. “Closed-circuit monitoring of the server rooms and office environment can detect suspicious or fraudulent behavior,” he says. “And don’t store what you don’t need. Minimize your risk by understanding and reducing where your data is stored. It’s not just on servers in the data center.” Russo says knowing this allows you to narrow your PCI scope and start executing your security strategy.

According to FaceTime’s fifth annual user survey, “The Collaborative Internet: Usage Trends, End User Attitudes, and IT Impact,” IT managers are not prepared to deal with archiving and e-discovery for regulatory compliance. Of those surveyed, 77% can archive and retrieve email, 38% can store and retrieve IM and chat, 29% can retrieve audio conferences, and 22% archive Web conferences. Even fewer retain personal blogs (18%), content posted to social networks (19%), or Twitter posts (13%).

As for the e-discovery issue, Carter says once you have visibility into your particular situation, you can implement procedures and protocols for controlling access and then archiving Web 2.0 data traffic and promoting e-discovery. She says that to solve the problem of noncompliance because of lack of e-discovery capabilities, managers should put social media usage and archiving policies in place and make sure that they are enforced. “Also,” she adds, “make sure that the necessary technology is in place to enable e-discovery and retrieval of email, IM traffic, blogs, Web casts, etc., in the event of an audit.”

PCI Focus

Although there are still organizations that remain out of compliance and at risk of a breach, Russo says there is an even more profound increase in organizations that are increasing their focus on ensuring



payment security in accordance with the PCI Security Standards Council. He says that by educating data center and IT managers on achievable and solid security programs, the council hopes to protect them against the cost of a data breach.

Russo says the Council has introduced many new tools and resources to increase understanding and effective deployment of the standards, including a “Prioritized Approach Tool” that provides six risk-based milestones for approaching PCI compliance, new standards training to help organizations better understand what assessors are looking for and how to employ effective security controls, and a host of other key information supplements and education documents.

“It is important to remember there is no silver bullet that guarantees security because everyone’s infrastructure and business are different,” says Russo. “Seek partnerships with security vendors that can add value beyond technology solutions, with practical advice and case studies of those who have faced similar challenges.” Russo says 2010 is shaping up to be a busy year for the council, especially as it prepares for an introduction of the newest version of the PCI Data Security Standard. ■

Best Lesson Learned: Noncompliance Can Break The Bank

Inability to comply with regulatory audits can be very expensive. According to recent research by the Aberdeen Group, the average cost for noncompliance is \$1.1 million for a HIPAA violation, \$1.3 million for a PCI DSS violation, \$1.4 million for an SEC violation, and \$2.1 million for a Sarbox violation.

According to Sarah Carter, director of marketing at FaceTime Communications (www.face-time.com), most regulatory bodies won’t accept excuses when IT managers cannot produce an audit trail of Web 2.0 content. In fact, FINRA (Financial Industry Regulatory Authority) has a stated “no grace” policy, so companies need some kind of technology to monitor, control, and archive social media conversations. Carter says in the long run, an investment in Web 2.0 monitoring and e-discovery technology is cheap insurance.

Key Points

- The proliferation of Web 2.0 applications and online communication has prompted a wave of regulatory guidelines that require enterprises to retain and track sensitive information and correspondence.
- IT managers and data center admins must address e-discovery by filtering and logging Web 2.0 traffic and implementing monitoring systems, whether hardware- or software-based.
- Implementing a strong security strategy will ultimately lead to compliance.

managers need to remember that the goal is security, not compliance, and that implementing a strong security strategy will lead to compliance. “PCI provides the framework for a security strategy,” Russo adds.

Sarah Carter, director of marketing at FaceTime Communications (www.face-time.com), says the most common mistake that managers make relating to PCI and regulatory compliance is visibility—or rather invisibility. Carter explains, “When it comes to Web 2.0, we’re not talking about standard HTTP traffic; we’re talking about hundreds and thousands of Web and Internet applications like instant messaging, P2P applications, social networks, and anonymizers—a whole host of ways in which data can make its way out of the network undetected by traditional security tools.”

For example, Carter says, VoIP and conferencing tool Skype doesn’t use standard ports on the firewall, even if the only ports that are open are ports 80 and 443. She points out, “Skype is encrypted data traffic, so if one of your staff is sending out credit card numbers in a PCI environment or patient records in a HIPAA environment, then it’s unlikely that you know anything about it until you get the fine.”

She says that, like Skype, most Web 2.0 and Internet applications fly under the radar of data center managers, bypassing URL filters, firewalls, and the like, and so from a PCI perspective are directly in breach of

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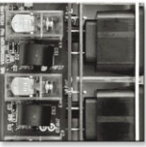
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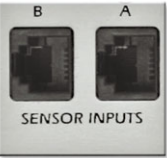
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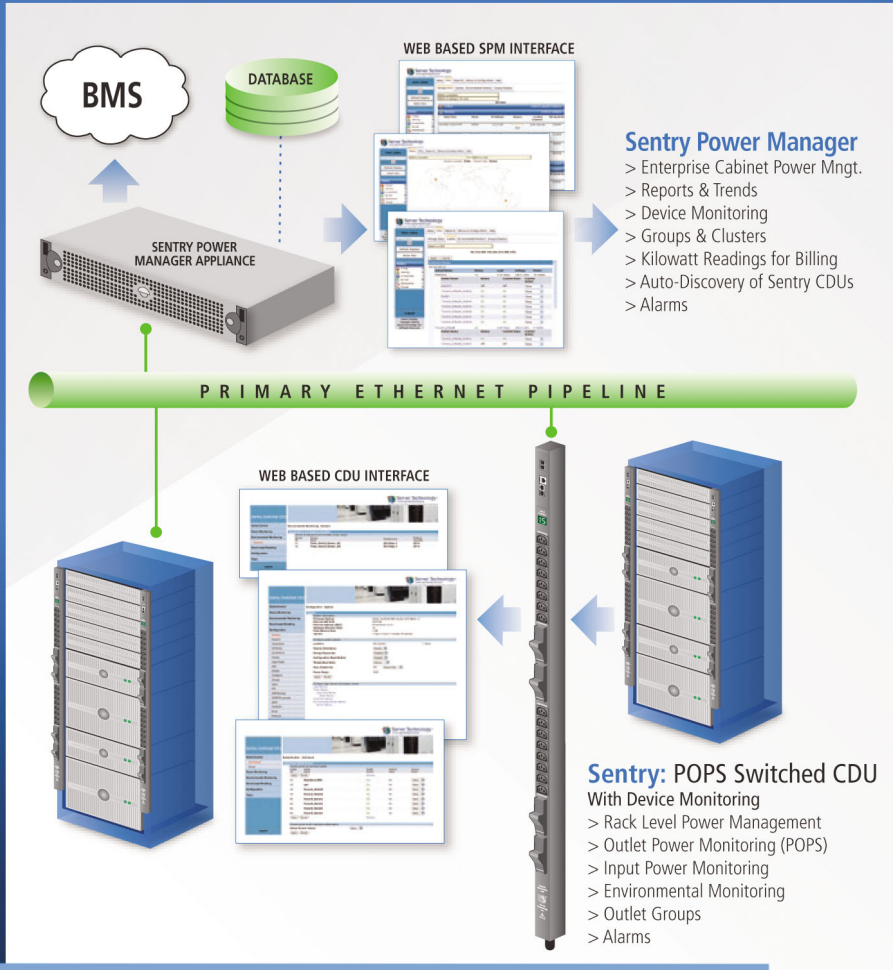
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by Tessa Warner Breneman

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Former Dell Employees To Face SEC

According to a filing from Dell with the Securities and Exchange Commission, the SEC has contacted several former Dell employees concerning a probe the commission is conducting into Dell's accounting practices. The unnamed former employees were reportedly given Wells notices, meaning they should expect civil or administrative actions to be taken against them. The SEC is looking into Dell's financial reporting and accounting records from 2001 to 2005; though a settlement has not yet been finalized, the probe is likely to result in Dell paying monetary penalties. The company did not say whether current employees had been given similar notices, although it did not rule out the possibility.



Green IT Exam Designed

CompTIA has set up a Green IT exam that will certify IT professionals for environmentally friendly technologies, techniques, standards, and policies. The exam is designed for IT employees who have decision-making authority over the company's IT infrastructure, and it will address issues such as disposing of equipment, preserving power, and reducing an organization's carbon footprint. A recent CompTIA study found that 40% of IT service providers offer energy credits to clients, and 26% provide carbon footprint measuring and monitoring services. The CompTIA study also found that 78% of enterprises factor "green" into their decisions when purchasing monitors and displays, while 77% consider power consumption when purchasing computers. For more information on this story, see page 13.

Report Shows Number Of Electronic Medical Record Thefts

There were more than 275,000 incidents of personal health record information theft in the United States last year, according to Javelin Strategy & Research. Stolen medical records are particularly dangerous because they often include Social Security numbers, addresses, medical insurance numbers, and credit card numbers. The information makes it easy for criminals to commit fraud. Javelin indicates that fraud from medical data has risen drastically over the past few years and that, compared to other forms of identity theft, it takes twice the amount of time to detect medical information fraud, and the average cost is \$12,100.

Court Rules Against FCC On Net Neutrality

In a setback to the Federal Communications Commission's Net Neutrality policy, a federal appeals court ruled that the FCC has no authority to force Internet service providers to treat all traffic on their networks equally. The U.S. Court of Appeals for the District of Columbia ruled in a 3-0 decision that the FCC has no power to stop cable company Comcast from slowing traffic to BitTorrent, a popular file-sharing site. The court determined that the FCC does not have authority over broadband services, which are categorized separately from phone, wireless, and cable services. The ruling could lead the FCC or Congress to write new rules or laws that firmly establish the FCC as an Internet services regulator.

Email Server Migration Lessons

Key Considerations Include Planning, Capacity & Employee Training

by Phil Britt

• • •

SUCCESSFULLY MIGRATING to a new email server is no easy task; however, it's a necessary evil that almost every IT admin will have to deal with at some point. Fortunately, there is information and advice to be gleaned from looking at the lessons learned during previous email server migrations that will help you as you get started.

Planning Is Key

EMC Consulting has seen a lot of challenges in migrating companies from one email server to the next, according to Scott Burgess, EMC's director.

The most important lesson that Burgess and other experts discovered is that the most successful email migration projects are ones in which all stakeholders are consulted before the process begins so that they know what to expect.

"When you're spending millions of dollars on an email migration project, no one just wants to roll the dice," Burgess says. "It's all about helping the customer understand the timeline, what is asked of the organization, [and] what they are going to experience. You can spend more time on the planning than on the actual migration."

Planning at the beginning helps minimize any misconceptions regarding the need for the migration, the expected length of the migration, and the expected benefits of the migration, along with minimizing any turf wars that can occur in technology projects, according to Burgess and Scott Gode, vice president of product management and marketing for Azaleos (www.azaleos.com).

Sometimes, it's the least technical issues that cause companies the most headaches in an email migration, according to Gode. "Sometimes, all of the data gets migrated and the new system works fine, but the company fails to prepare the users for the new platform," he says. "If they're not familiar with the new system, they may not know how to send and receive email. They may not know where to find their address list. That means a lot of time involved for the help desk. There is always going to be a learning curve."

Planning should therefore include training for end users of the new system, says Patrick Garrett, senior industry manager at Alsbridge (www.alsbridge.com). "The most reliable predictor of success is how well it is planned," he says. "You need to educate users [so] they won't be surprised. If you educate them on the benefits, then they'll be stakeholders; they'll have ownership in it. They say that people are resistant to change. That isn't true. People are resistant to the unknown."

Training like this also helps prevent any issues once the conversion is complete, Garrett says. "Too often, companies bring in specialists [and] the migration goes smoothly, [but] then the specialists leave, something goes wrong, and no one knows how to do anything about it."

Which users to migrate first can be an issue, as well, according to Burgess. Some email server migrations run into unnecessary complications as IT professionals,

- Key Points
- Planning the migration process, including necessary capacity and the priority of systems to migrate, will make the migration much smoother.
 - Prepare end users for the new email platform. Features and functionality can be quite different than an older platform, so end users need to know what to expect.
 - Simplify the process wherever possible. Archive old emails before the migration starts and separate whatever you can so that the migration can occur as swiftly as possible.

business users, and others within the company all try to dictate the progress and priorities of the email migration process.

"There's a value of having 'Switzerland' involved," Burgess says. A project manager or other corporate executive can play this neutral moderator role.

Minimize Migration Time

Minimizing the time the two systems are operating will also smooth the transition.

Burgess recommends that once integration has begun, the mailbox is only touched at the time of migration. He also recommends that migration occur over nights and weekends to minimize the impact on business users.

"There's no such thing as a single slash/cutover," Burgess says. "The change-over is not a one-time event; it's a series of larger and larger pilots. There will be a period of coexistence of the two email systems. That will mean a doubling of the operating load. A lot of these systems are not designed to coexist with other operating systems."

Garrett adds that sometimes portions of the two email systems (e.g., notes) may not be compatible. Such a situation can be spotted during a pilot and planned for during the time the two email systems are both operating.

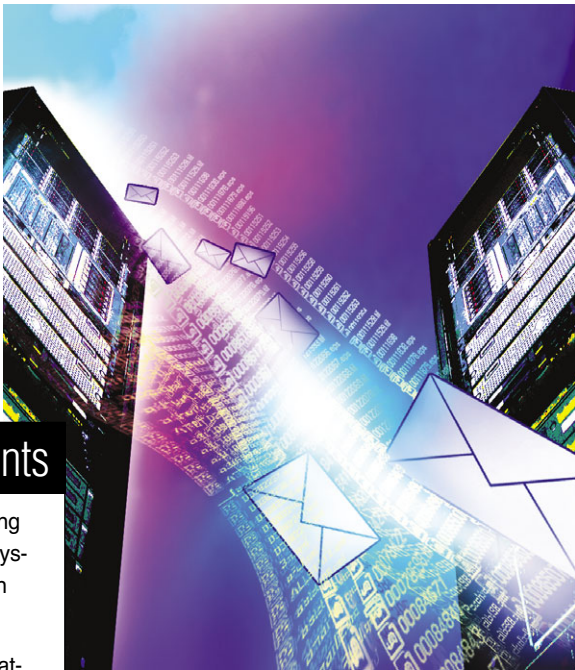
Archival Speeds Process

Reducing the size of the migration is another essential technique. Depending on how long it's been since the last email migration, the firm could have several terabytes of emails. Typically, firms allocate about 10GB per employee on their email servers, according to Garrett.

All other factors being equal, the more files there are, the longer the migration will take, so Gode recommends that before the migration starts, firms purge or otherwise archive as much email as possible. Separating associated files, such as Lotus Notes, for a separate migration will also minimize the time of the email project. Burgess says another successful method is to "pre-migrate" emails more than 90 days old and then move the newer ones. The migrations can be flipped, too, migrating the older (less likely to be needed) emails after the newer ones.

Other Lessons

Even with proper planning, an email migration can run into unexpected glitches,



Garrett says. So he recommends using a "bell curve" strategy in migrating users: Migrate less complicated systems first, more involved ones in the middle, then other simpler systems at the end.

Migrating less complicated systems at the beginning helps move the process along in a positive way, which is very important, Garrett explains. It's good to have some successes before the harder-to-migrate systems that may pose some unexpected complications and delays. If there are still some easy ones left at the end, it gives IT some time to catch up so that the project is completed on time.

Capacity is another potential roadblock to remember. "One of the key issues to work through before the migration is whether you have the right hardware: Have you planned for the right amount of growth going forward? The storage needs for a new email system can grow rapidly," Gode says. So ensuring enough capacity at the beginning will help ensure that another migration doesn't occur sooner than planned.

Additionally, to ensure that the new email server operates as expected, the company should consider additional capital expenditures when migrating to new email servers, which will tend to have advanced capabilities, Gode adds. Those advanced capabilities also mean additional processing capability and storage costs.

Finally, some firms neglect the need to correctly configure the Active Directory for the new email server, meaning they can't run email at all until the problem is located and corrected, according to Gode. ■

Best Lesson Learned: Take Cloud Concerns Into Consideration

If migrating from an on-premises email server to a cloud environment, Scott Gode, vice president of product management and marketing for Azaleos (www.azaleos.com), recommends that managers closely examine agreements for remigration language.

"If you keep it on-premises, migrating back to the previous system is pretty straightforward," Gode explains. "But if you're migrating to a cloud service and later decide to migrate back, the cloud company has your email and you're kind of stuck. You could be on your own on trying to migrate back."

Gode recommends that any contract with a cloud provider detail the responsibilities for restoring the email back to an on-premises environment. If the responsibility remains with the cloud customer, the customer should receive better rates for assuming this risk.

COVER FOCUS

An Education In Energy Efficiency

Learn Which Pitfalls To Avoid When Streamlining Your Enterprise’s Efficiency

by Sixto Ortiz Jr.

• • •

AS COMPUTING DENSITY in data centers increases, the focus on capturing savings by implementing energy efficiency measures should increase accordingly. The math is simple: The more equipment in a data center, the more energy is consumed. And energy costs, if left unchecked, can take a substantial bite out of a budget.

Key Points

- Simplicity in identifying and implementing energy efficiency measures can capture low-hanging fruit that delivers the most bang for the buck.
- Establishing a baseline can help you identify whether an energy efficiency strategy is actually improving efficiency and providing cost savings.
- Overcapacity is the enemy of cost-effective energy management and consumption. Administrators should understand their infrastructure and their needs and then plan accordingly.

But before diving in, administrators should think carefully about the path forward for conducting energy efficiency audits and implementing energy efficiency measures. Mistakes here can result in inefficient measures that don’t deliver results and wind up costing valuable time and money. Read on to learn more about these potential mistakes and what to do to avoid them.

Keep It Simple

David Matusow, Center of Excellence architect at Sungard Availability Services (www.availability.sungard.com), says one of the biggest mistakes is looking for the exotic. Often, he adds, it’s the simple solutions that are both the easiest to implement and the fastest to get done and have very significant areas of improvement.

For example, Matusow says simple things such as implementing sleep modes on servers and lighting can result in very sizeable gains without the need to incur capital expenditures requiring top management approval levels.

Matusow says Verizon did a study in 2008 on the sleep feature on most PCs; the study showed the company would save an estimated \$7 million per year just by implementing this feature at night when PCs were not utilized. According to the study, Verizon could achieve energy savings equivalent to that needed to light nearly 88,000 homes annually.

But there is a caveat, says Matusow: It is very common to look for savings, root out inefficiencies, and ensure an environment is as green as possible only to forget that the business needs to be organizationally and financially responsible. It is important to assess the larger picture to determine where the lines are drawn, he adds. Administrators should ask themselves at what point is it worthwhile to spend a million to save a thousand.

Also, he adds, organizations often look at the immediate and direct benefits of energy



efficiency measures without considering the indirect and peripheral benefits. For example, if a data center’s energy consumption is a burden on the power infrastructure and causes a direct negative effect on community stakeholders, it might be appropriate to implement energy efficiency measures that reduce the impact.

Best Lesson Learned: Cost Analysis Is Key

A simple—but potentially costly—mistake administrators can make in terms of auditing or implementing energy efficiency measures in the data center is doing nothing at all. Unfortunately, says Tyson Hartman, global chief technology officer at Avanade (www.avanade.com), more than half of the respondents to a recent survey commissioned by Avanade said that even though energy is a top cost, these companies still fail to account for energy costs when developing IT budgets.

The study shows that even though more than 50% of all companies surveyed said they measure all costs associated with a system before implementing and 89% cited cost as a significant factor in a company buying decision, only 25% list energy among their top three largest IT costs per year.

Hartman points to a Gartner estimate, which, alarmingly, states that over the next few years, most enterprise data centers will spend as much on energy as they do on hardware infrastructure. Hartman says companies need to begin considering greener options such as virtualization and cloud computing so they can adjust their IT budgets appropriately to curb these rising costs.

Flying Blind

Neil Kimberly, solutions engineer at 1E (www.1e.com), says the most common mistake IT managers make when implementing power management measures is failing to create a baseline to measure against each step of the way to ensure a power management project leads to real savings.

Sungard’s Matusow emphasizes that it is important to get intimately acquainted with the data center. A fact-finding mission to identify what is being spent and where costs are originating from should involve discussions with the data center personnel who are knowledgeable about their environments and know how to best address efficiency, he adds.

Only when the full assessment and fact finding are done should administrators pursue solutions. One cannot find facts, Matusow emphasizes, without knowing the context; these fact-finding efforts often uncover locations for improvements in areas that one would have never expected.

Keep It Realistic

A common mistake that can lead to substantial energy overages is the tendency by data center administrators to install excess capacity, be it cooling, servers, or other items. It is important to accurately determine needs based on real operating conditions and plan purchases accordingly.

For example, a potential land mine is the failure to properly determine the cooling

requirements at the data center, says Eric Hansel, president of EGM Green (www.egmgreen.com). Hansel recommends that administrators figure out exactly how much cooling will be required. Once that’s done, they should install a high-efficiency cooling unit with the correct tonnage. Other areas where savings might be captured are in lighting within the data center and the use of high-efficiency processors and servers.

Another mistake along these lines, says Daniel Feldman, director of telecom marketing at Microsemi (www.microsemi.com), is having PoE (Power over Ethernet) at every port. Feldman says that PoE ports, whether they are turned on or off, mean the system power supply is oversized, so there is higher consumption even when idle.

According to Feldman, ways to overcome this include using midspans where possible, scheduling ports that are not needed at certain times to completely shut down, and using equipment that relies on PoE for power because such equipment tends to be more efficient than its non-PoE counterparts. ■

CompTIA Offers Green IT Certification

In an effort to bring IT professionals up-to-speed on green initiatives, CompTIA is offering a Strata Green IT exam to assess and increase the IT industry’s knowledge of environmentally friendly programs and methodologies. The 30-question test is designed to quiz IT professionals about the appropriate techniques for effective waste disposal, power preservation, energy measurement, virtualization of IT systems, and other enhancements associated with green IT. To aid IT decision makers in continually developing their specialized skill sets, CompTIA wants to certify data center managers and administrators in the next level of green IT implementation.



According to Terry Erdle, senior vice president of skills certification for CompTIA, the Strata Green IT certificate is designed for those IT professionals who have decision-making authority over their companies’ IT infrastructures, such as IT managers, IT supervisors, data center managers, or operations managers.

“Green IT is at the heart of virtually every aspect of sustainability, from the power grid, smart buildings, and environmental control systems to telepresence, telecommuting, and virtualization,” Erdle says. “But to fulfill the promise of green IT, technology professionals must add new skills unique to its environment. CompTIA Strata Green IT is a big step in that direction.”

Even so, technology companies have already intensified their commitment to reducing carbon footprints using green monitoring services. For instance, 72% of IT service providers surveyed in the 2009 CompTIA study “Green IT: Insights and Opportunities” conduct audits to assess the greenness of energy consumption and power management. Additionally, 78% factor green initiatives into their decisions when purchasing monitors and displays. The Green IT exam will serve to provide IT professionals with the assessment tools to maximize ROIs and optimize green standards.

Corporate Goals

Ultimately, the CompTIA exam and resulting certification is intended to benefit employees in a range of professional career levels. Erdle says that CompTIA’s mission includes “facilitating career development for IT and technology-related professionals as they enter the job market and progress throughout their careers.”

In terms of how this relates to the future of green IT, Erdle says IT departments will see increasing pressure to help organizations meet emissions targets and cut energy bills, so it’s vital to IT personnel to understand green IT and what measures they can take to reduce their environmental impact.

“IT professionals must understand greener energy solutions such as correct disposal of hazardous materials, preservation of power, and virtualization,” says Erdle. “Employees who are certified in bringing about these changes will be worth their weight in cost savings to their department and organization.”

by Joanna Safford

FEATURED PRODUCT

Smartphones
Growing In Popularity

Indications are that smartphones will constitute the majority of portable communication devices by 2011. Even now, recent Nielsen surveys show that 21% of wireless subscribers currently use a smartphone, and some 45% of respondents said that their next device will be a smartphone; if so, about 35% of all subscribers will be using smartphones by the end of this year. The jump to more than 50% by the end of 2011 looks like a sure bet.

What is behind the burgeoning adoption of smartphones? Part of the answer has to do with price. At one time, a business-class smartphone could set a company (or an employee) back \$500 or more, but prices have plummeted; with a service contract and rebates, one can now purchase such devices for about \$50. At these prices, what used to be viewed as an expensive toy is now seen as an affordable necessity.

We're entering an era in which the smartphone has become the standard communicative device for both business users and consumers; it's now the primary tool we use to connect with friends, colleagues, and the Internet when we're on the go.

Effects On The Enterprise

For enterprise users, this shift creates both problems and opportunities. "Users now enter the workplace expecting at least the same level of functionality from the business IT infrastructure as they have at home," says Jim O'Gorman, IT consultant at Continuum Worldwide. "If they're not provided that level of functionality, they'll try to provide it for themselves by attaching their personal cell phones to the network to retrieve email. This leads to situations in which possible confidential company data now resides on devices that are not under the company's control."

Smart companies, says O'Gorman, can use this trend to improve their security posture. "If corporate users access personal email and social networks via their personal devices, that keeps that traffic off of the company systems, improving overall security," he notes.

Some organizations have worried that supporting multiple devices would become problematic, but O'Gorman says that most of those problems have not materialized. "From a back-end perspective, most devices have standardized on Microsoft ActiveSync or BlackBerry server."

The reality is that smartphones have already invaded the enterprise, so IT staffers need to find ways to avoid as many device-related issues as possible while making the most of the opportunities the devices present.

by Rod Scher

by John Brandon

• • •

NOT EVERY DATA CENTER is housed in a brightly lit office complex, surrounded by thick walls, and connected to ample network services. In fact, for military installations, onsite broadcasting over a television network, or for those who frequently move their computer operations to a new site—such as a temporary branch office for short-term work assignments—a data center becomes a portable entity.

Pelican Products (www.pelican.com) manufactures durable, rugged cases designed for moving IT equipment or housing it for remote use. Pelican Hardigg rack cases provide internal rack-mounts for servers, storage, and even LCD screens and networking equipment. Made using a rotomolding process that reinforces the plastic material, the Hardigg cases are ideal for storage or remote data centers because they can withstand drops and heavy handling without damaging equipment.

"The product is designed to address the needs of heavy defense contractors who want a way to have a mobile operation in the field [that is] able to withstand the hazards of transportation, drops, or even heavy rain," says Dinis Jablonski, director of product management. "We listened to our customers and designed to the specifications of whatever you are putting into the product, such as processors, radios, [and] any other equipment that needs to arrive at the end destination in working order."

Jablonski says Pelican has worked with military groups such as SOCOM (Special Operations Command) and the U.S. Army and Navy to design cases that are lightweight and compact yet able to withstand harsh conditions. For example, every case uses a gasket that keeps out water, dust, and other particles from entering the case and damaging internal equipment. Jablonski says SOCOM uses the rugged cases with rackmount servers in the field; the primary goal was to be able to move IT operations to a remote location and set up quickly without the need for additional maintenance.



Pelican Hardigg Classic Rack Cases

Data Center Benefits

One of the clear benefits of using Pelican Hardigg cases for any company transporting gear or setting up a remote operation is that the cases are extremely customizable. Cases are available in sizes from 3U up to 26U and at rack depths from 19 inches up to 33 inches. Jablonski says there are actually 143 different models available, and customers can special order with unique add-ons such as bezels



for LCD screens, lid pouches and hangers, pressure release valves to seal components while providing air inside the case, slide-out trays, and special catches for handling the cases. Cases come in varying levels of durability, as well, from the entry-level light-duty product called the ProRack that starts at \$350 to the fully rugged Classic line that runs about \$4,000 per case.

Jablonski says the cases are typically used for servers and other IT equipment, diagnostic equipment, video servers, monitors, and UPS equipment—any technical equipment that needs to arrive at a location in the same condition it was in when the customer shipped it. He says one customer special-ordered a case that is used for a portable video-editing terminal with all of the equipment required for a remote television and movie set production.

For remote data center operations, the Hardigg cases' reliability sets them apart from other case products. Pelican conducts its own testing process in a lab where cases are dropped and handled to ensure reliability. The cases conform to rigid military specifications and are shock-mounted and reinforced. For example, the edging on Pelican Hardigg cases is 15 to 20% stronger than typical storage containers.

Outclassing The Competition

For remote IT and transporting equipment, Jablonski says it is surprising how many companies use corrugated cardboard boxes for moving expensive IT equipment. Pelican cases have a high ROI because they minimize any "shipping casualties" and lessen the maintenance burden when data center managers decide to move equipment—say, to a branch office—and then have to reconfigure the gear because of problems that arose during shipment. Pelican products are rated to allow 100 shipments on an airplane, exceeding what competitors claim and far exceeding non-rugged shipment containers.

Jablonski says its competitors do not provide as many customization and special ordering options and that Pelican Classic cases have a 300-pound load rating compared to competing cases that have just a 100-pound rating. Pelican's Hardigg cases meet and exceed the ATA (Airline Transport Association) Cat 1 specification, as well, while competitors are typically not as rugged and durable and do not withstand heavy handling, says Jablonski.

Another differentiator, says Jablonski, is that the cases are designed to be as light as possible and still meet military specifications for drop tests and handling. Jablonski says shipping costs range from \$50 to \$100 per container for airplane shipments, while heavier cases from competitors add to the total cost of ownership through high shipping costs over many years. The materials used for the Hardigg cases can withstand dents and scratches without damaging the equipment inside, which leads to a longer life for the

product so that data centers do not need to replace cases on a regular basis. Because the cases last longer, there is less impact on the environment that occurs when cases must be discarded.

"The overall advantage is that our cases are designed to protect the customers' equipment so they don't have to worry about maintenance or hardware costs—when they pack the product in these cases, the equipment arrives in the same condition," says Jablonski. ■

PELICAN HARDIGG RACK

(800) 473-5422
www.pelican.com

Description: Rugged cases designed for remote IT operations or transporting gear to a branch office or temporary location without any undue wear and tear to the equipment.

Interesting Fact: Pelican Hardigg cases come in sizes from 3U up to 26U and can be used for a variety of IT equipment, including server racks, network equipment, and LCD monitors.

Pelican Hardigg
Rack Features

- Made from a rugged material that can withstand drops, kicks, dents, and rough handling
- Rated for the ATA Cat 1 specification for 100 shipments on an airplane
- Custom order for video servers, diagnostic equipment, and rackmount servers
- Lightweight to reduce overall shipping costs when used over several years



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501490-001	80GB SATA hard disk drive 1.8" complete	\$105.00
446914-001	14.1-inch TFT WXGA LCD display panel - For models with WWAN	\$175.00
481534-001	6710b FF system board	\$165.00
507169-001	DV7-series FF system board	\$295.00
485218-001	System board (motherboard) - UMA architecture, GM45 chipset	\$260.00
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Revisiting A Refurb?

Whether Refurbishing A Data Center Or Planning A New One, The Pitfalls Are Much The Same

by Jean Thilmany

AS THE ECONOMY begins to pick up, enterprises that shelved the idea of refurbishing their data centers a few years ago may be revisiting that idea. But, as with before the economic fallout, data center managers

Key Points

- Your data center's physical makeup and location must be considered when deciding whether to refurbish the center.
- Anticipate future electricity needs, which is never an easy thing to do with today's quickly changing technology.
- If you're expanding as well as refurbishing, a few more considerations, such as architectural stability, will come into play.

will need to watch out for common pitfalls as they look at a renovation.

Whether an enterprise is completely refurbishing a data center or building a new one from scratch, David Cappuccio says the pitfalls are pretty much the same. Cappuccio, chief of research for the infrastructure group at Gartner, says things to consider before diving in include location, security needs, and energy use.

He recommends data center managers pull together a small team of five or six people to focus on gathering information and generating ideas about the refurbishment. Team members should include staffers with skills in IT architecture, servers, storage, networking, facilities, and building security. The facilities staffers should include those with backgrounds in air conditioning (with a focus on IT cooling), generators, and power distribution.

Avoid choosing team members who might come into the project with preconceived ideas of what the data center refurb should include, Cappuccio cautions.

The data center's physical strength will also play a role in plans.

Choose team members who are open to new ideas. Many bad designs have resulted from simply repeating the past, he adds.

"Today's well-designed data center is radically different from older versions," Cappuccio says. To that end, he says, document every choice. This will be an invaluable aid to those who will be doing the refurb of your refurb in the future. You'll be giving them a helpful map of the team's decision-making process each step of the way. Not only does this avoid future what-were-they-thinking moments, but it provides valuable infrastructure, electrical, and layout information for future staffers.

How Much Power?

To begin the planning process, get an overview of your power needs, cooling needs, security, and data center configuration, says Peter Notari, president of the architectural firm Notari Associates (www.notariassociates.com), which builds data centers. You'll also need to look at the mechanical systems your data center will need to house.

Start by considering the power needs of the refurbished data center, now and in the future. Power use will likely be much different than in your current data center, which will affect both data center design and the use of mechanical systems to cool the center, Notari says.

Cappuccio cautions that future needs might not be easy to anticipate. In the past, future data center energy use could be at least somewhat predictably planned, he says. Both server and storage energy growth have skyrocketed during the past eight years because of the introduction of newer technologies such as blades and virtualization. And who knows what the future will hold?

To that end, design for expected energy loads but include the flexibility to shift loads and usage patterns as needed, Cappuccio says. Plan your data center, for example, with zones that can support high-, medium-, and low-density racks. "The size of these zones obviously depends on you, but these zones can shrink or grow as workloads demand," Cappuccio says.

You'll need a backup generator, Notari says. Your emergency generator must be big enough to support your entire electrical load, including electricity used for data center cooling. "A data center isn't much good if it's hot," he says. "So those generators can get quite large, even at a smaller facility."

The Look Of The Room

When refurbishing your data center, you'll most likely want to include a 24-inch raised floor, as it is quickly becoming the norm in today's data centers, Notari says. Floor depths have been rising over the past decade as managers look to the space under the floor to manage their increased cabling needs, he adds. You'll want to make sure your ceiling is high enough to support this. Even if your center won't need that much depth today, it may tomorrow.

"In a larger data center, the primary power is usually routed through the floor along with most of the data cabling," he says. You may also choose to run cables through overhead trays, but this again will affect ceiling height.

Where It's At

The data center's physical strength will also play a role in plans for retrofitting or

refurbishment, Notari adds. Consider the strength of your present walls. They may have to be shored up. "Most data centers are usually looking for a wall that can resist a 150-pound load—the equivalent of a hurricane-force wind throwing a 2-by-4 through a window," he says.

Depending on location and layout, the roof will need to be strong enough to support the weight of the air-conditioning unit or the emergency generator. If you're expanding the data center from its present location, security considerations will come into play.

"A lot of times when retrofitting an existing building, you'll have a lot of glass," Notari says. "You'll have to block that to secure the facility. Many times, people will build an inner wall inside the glass wall, but you'll have to be careful with that because if you build an inner wall with a southwest-facing wall, you'll create a greenhouse."

Architectural considerations also need to be looked at when refurbishing a data center, as does physical location, Cappuccio says.

"People are beginning to look at the environment around the site," he says. "Does it have the right people resources with skill set? Some sites where they're trying to attract data centers have good construction costs but don't have employees in the neighborhood that have the right skills."

In fact, as Cappuccio points out, managers will need to take many of the same concerns into consideration whether retrofitting, refurbishing, or building a new data center from the ground up. Start with a good team, a common goal, and a checklist of considerations, and those managers will be well ahead of the game, he says.

Data Makes A Move

If you'll need to move data from one area to another—in the event of expansion, for example—you'll also need to consider the security of that data, says Steven Ringelberg, COO at Vanguard Integrity Professionals (www.go2vanguard.com), which makes security software.

Data center managers may choose to move data by putting it on tapes or transferring it over a communications network. "But in either approach, if you moved the data physically from one location to another, you'd need to encrypt it as if it were being stored on an external media," Ringelberg cautions.

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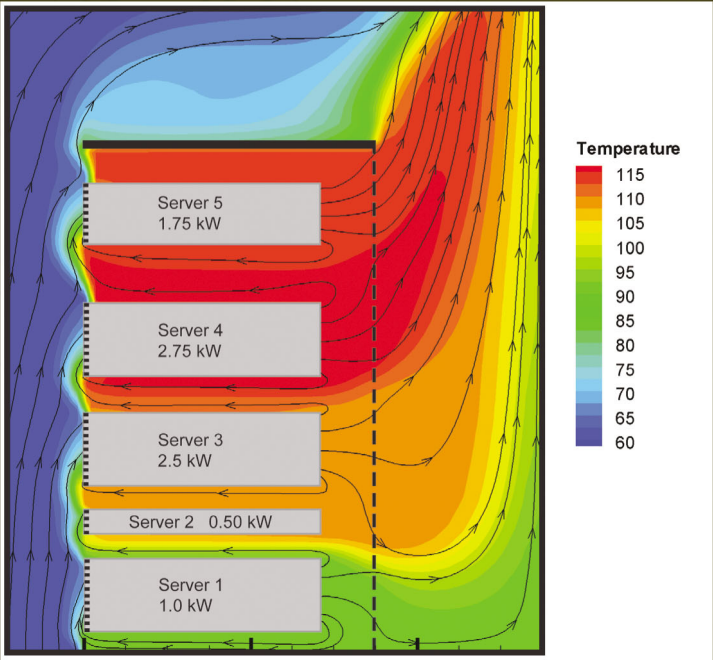
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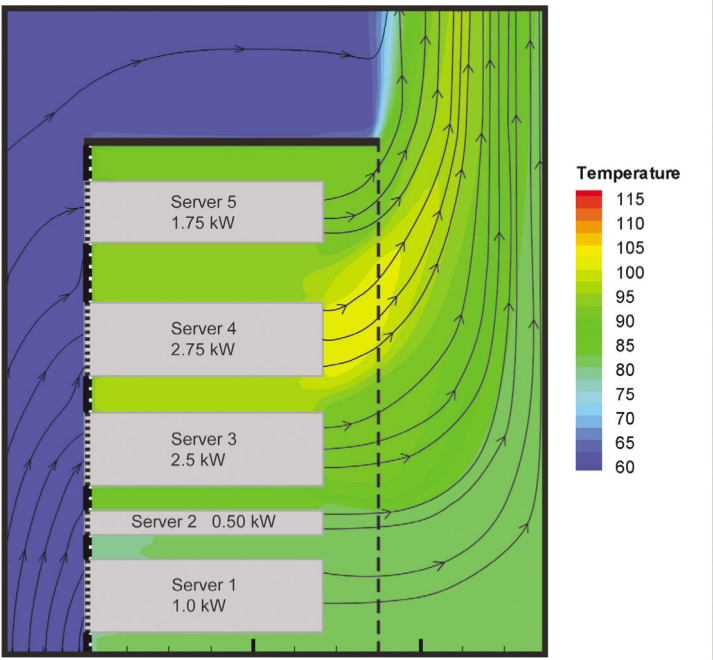
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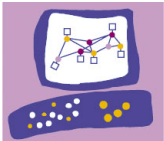




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Product	ANX OfficeScreen Complete	ANX PositivePRO	Aruba Networks 651 Branch Office Controller
			
Description	<p>OfficeScreen Complete is a cloud-based site-to-site VPN service that supplies fully managed security for remote network access. The software-as-a-service offering receives frequent security updates for its unified threat protection role and acts as a firewall, too.</p> <ul style="list-style-type: none">• Provides traffic shaping and Web content filtering capabilities• Managed service with failover protection• Aids in compliance with HIPAA, Sarbanes-Oxley, PCI DSS, and more <p>Best For: Companies with remote workers and regulatory compliance obligations.</p> <p>Price: \$180 per month for 10 users</p>	<p>Hosted in a carrier-class data center, ANX PositivePRO is a cloud-based remote and site-to-site connectivity solution that is intended to provide SMEs with secure, intuitive access to a network at a reasonable price.</p> <ul style="list-style-type: none">• Policy-based rules• Endpoint security scans• Dynamic authentication in real time• Live chat support with trained personnel• Zero hardware requirement <p>Best For: Multisite organizations and companies with remote employees, preferred vendors, and/or customers with network access needs.</p> <p>Price: \$199 per month for 10 users</p>	<p>The Aruba Networks 651 Branch Office Controller is an all-in-one device that comes with 802.11a/b/g/n connectivity. Along with other members of the 600 series lineup, it's both a router and a site-to-site VPN solution for the edge of the network. Additionally, Aruba says the device is easy to configure and use.</p> <ul style="list-style-type: none">• Hands-free remote management deployment option• Print and file server capabilities• Built-in firewall for Wi-Fi and Gigabit PoE+ ports <p>Best For: Branch offices, teleworkers, and SMEs.</p> <p>Price: \$1,470</p>
Contact	(877) 488-8269 www.anx.com	(877) 488-8269 www.anx.com	(408) 227-4500 www.arubanetworks.com

Product	Check Point VPN-1 VE	Juniper Networks SA2500 SSL VPN Appliance	Juniper Networks SA4500 SSL VPN Appliance
	 Check Point SOFTWARE TECHNOLOGIES LTD.		
Description	<p>The preconfigured Check Point VPN-1 VE is a certified virtual appliance for VMware ESX and ESXi servers. It protects virtualized environments from threats both external and internal, shielding virtual systems even from each other for regulatory compliance. It combines VPN, firewall, and IPS to secure VMs, applications, and network traffic.</p> <ul style="list-style-type: none">• Delivers comprehensive and extensible security to protect your VMware environment in a single virtual appliance• Protects against emerging threats with the Check Point Update Service• Enables unified management of physical and virtual environments <p>Best For: Data centers with virtualized assets.</p> <p>Price: Starts at \$7,500</p>	<p>Juniper's SA2500 provides secure access for both mobile and static devices. Part of the company's SSL VPN lineup, the SA2500 can support up to 100 concurrent users and offers high availability with failover protection.</p> <ul style="list-style-type: none">• Features dual Gigabit ports• Supports terminal services, VDI, Web, CRM, ERP, email, calendaring, contacts, and more• Features provisioning by purpose: clientless core Web access, client-server application access, and full Layer 3 VPN <p>Best For: Small to midsized enterprises with secure remote access or business continuity requirements.</p> <p>Price: Starts at \$4,995 for 10 concurrent users</p>	<p>The SA4500 is the middle entrant in Juniper's SSL VPN Appliance family. It can support up to 1,000 concurrent users as well as provisioning by purpose. This 1U, hardware-accelerated SSL VPN device has two 1Gbps Ethernet ports.</p> <ul style="list-style-type: none">• Seamless failover to redundant hardware• Mobile and static device support• Integrated traffic compression increases overall speed <p>Best For: Midsized to large enterprises.</p> <p>Price: Starts at \$16,895 for 50 concurrent users</p>
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PRODUCT SPOTLIGHT

NETWORKING

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Compiled by Marty Sems

Aruba Networks RAP-2WG Remote Access Point



A low price belies the functionality in this 802.11b/g access point from Aruba. In addition to Wi-Fi, the RAP-2WG Remote Access Point includes site-to-site VPN capabilities and 2.4GHz intrusion detection and prevention. Dual Ethernet ports, policy-based forwarding, and centralized management are among the RAP-2WG's other benefits.

- Authenticated access support
- One-button installation
- Secure remote access to enterprise assets
- Compact dimensions

Best For: Teleworkers, SMEs, and small offices.

Price: \$99

(408) 227-4500
www.arubanetworks.com

Aruba Networks RAP-5WN Remote Access Point



The RAP-5WN Remote Access Point from Aruba Networks comes with support for 802.11a/b/g/n, wireless intrusion detection/prevention, and air monitoring. The RAP-5WN also features four 10/100 Ethernet ports for wired LAN connectivity.

- Backup WAN connectivity possible through USB 3G modem
- Traffic forwarding and user access programmable for individual LAN ports
- One-button setup
- Hardware encryption acceleration

Best For: SMEs, small branch offices, and telecommuters.

Price: \$395

(408) 227-4500
www.arubanetworks.com

Check Point Abra



The Check Point Abra is an encrypted SanDisk USB flash drive that turns a Windows computer into a secure, portable workspace with the user's desktop, application list, files, and email. It sports built-in VPN connectivity as well as Check Point virtualization and security features.

- Hardware and software encryption
- Program control regulates select application types
- Virtualization technology isolates a work session from the host
- Plug and play for ease of use

Best For: Remote workers, contractors, and single users from companies of any size.

Price: \$140 for 4GB; \$210 for 8GB

(800) 429-4391
www.checkpoint.com

Check Point Connectra



This remote access gateway combines an IPS and endpoint security with SSL and IPsec VPN capabilities. Users on the go and those in far-flung branch offices benefit not only from Connectra's links to network resources but also from its protection of their nodes from malware and other threats.

- Centralized management
- Certified as a VMware ESX Server virtual appliance
- Allows wireless network roaming without reauthentication

Best For: Enterprises with mobile and remote workers.

Price: Starts at \$5,500

(800) 429-4391
www.checkpoint.com

Juniper Networks SA6500 SSL VPN Appliance



Juniper's top SSL VPN Appliance, the SA6500, can support up to 10,000 concurrent users. Its layered security comprises controls at the server, data, device, and endpoint client levels for maximum protection of your organization's extranet access.

- Four Gigabit Ethernet ports
- Can be clustered to support up to 30,000 simultaneous users
- Support for terminal services, CRM, clientless Web access, ERP, VDI, and more
- 2U, 19-inch form factor

Best For: Large enterprises and service providers.

Price: Starts at \$43,995 for 100 concurrent users

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StoneSoft StoneGate FW-1030



The StoneGate FW-1030's high-availability technologies include firewall clustering, failover protection, and server load balancing. The VPN appliance also features the ability to segment internal networks to prevent malware transmission.

- Six Gigabit Ethernet ports
- 120Mbps VPN throughput and 650Mbps firewall throughput
- 1U, 19-inch form factor

Best For: Larger branch and remote offices; midsized to large enterprises.

Price: Starts at \$6,930

(866) 869-4075
www.stonesoft.com

StoneSoft StoneGate FW-1060



This VPN appliance with failover protection also provides firewall service with high-availability technology. The StoneGate FW-1060 is suitable for any size of enterprise deployment from hundreds to thousands of users, according to StoneSoft.

- Able to support up to 1 million concurrent connections
- Features 300Mbps VPN throughput speeds
- Optional antivirus engine for Web and email traffic and category-based Web filtering

Best For: Midsized to large enterprises; branch offices.

Price: Starts at \$15,330

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SIX QUICK TIPS

Set Up A Guest Access Policy

Safely Let Contractors & Other Visitors Onto The Corporate Network

by Drew Robb

. . .

IT’S ALL VERY WELL to set up the corporate network like Fort Knox with every security barrier imaginable. But then you are assailed by a steady parade of customers, contractors, agents, reps, and other visitors who just have to get on that ultra-secure system. Telling them “No” isn’t an option—not if you want to retain their business or their loyalty. So how do you go about it? The answer is a sensible guest access policy that is followed and enforced.

Guest Access Means Happy Visitors

A big mistake that some SMEs make is severely limiting access to the network to the point where guests can hardly do anything while on the premises. That just

up taking half a day or more due to guest restrictions. The conclusion was that the best solution was to find a way to do it that will not add a severe security liability.

Define Processes & Workflow

Johan Terve, vice president of marketing at Aptilo Networks (www.aptilo.com), says that the first step in setting a policy is to define an internal process and trace the workflow completely. That entails figuring out what exactly is needed by different kinds of guests. A media member, for example, might need one type of guest account, whereas contractors and consultants might need another.

An important aspect of this is figuring out how to register guests, whether via guest self-registration or manual preregistration by a staff member. Registrations can also be different for the various kinds of guest accounts needed: A basic account might use a simple self-registration process, which limits access, whereas greater access into specific corporate systems by a contractor might require manual data entry.

Another decision concerns the duration of guest accounts. These might be for 12 hours, a day, a week, or longer depending on the needs of the guest and the demands of good security. Also, figure out which employees are allowed to hand out guest passes. Similarly, distributing access codes to guests brings up another problem. Handing them out on arrival is one option. Sending them via text message or after registration are also possibilities.

Validate Registered Guests

Requiring valid ID cards for guest registration provides an extra level of security to verify that the guest account is linked to a verified guest. However, this policy generates additional steps for reception staff, and some guests may feel uncomfortable having to provide their ID to a stranger.

Fortunately, there are alternatives. For example, when a guest wants to access the Internet, ask her to provide a mobile phone number so that an access code can

be sent via text. This adds an extra layer of security by validating the user identity through the mobile number provided. If there is a situation on that account, the identity is tied to that specific cell number. Another option is to register guests via their parking pass, which includes a license plate number, their credit card, or a current work ID.

“A good way of validating the customer is to use a zero charge on their credit card in order to receive the proper access code,” Terve says. “Some enterprises may prefer to keep it simple and would be comfortable with no validation process at all; it is all up to their particular security requirements and policies.”

Separate Network Traffic

Separating internal traffic from guest traffic will provide enough data immediately to know whether a guest account or

Simple Tip:

Outsource Guest Access

There are various ways to separate the corporate network from guest access. One simple way is to outsource the entire function, and vendors exist that offer this service. Some offer everything under one common infrastructure design so employees, contractors, customers, and business partners can securely share LAN or wireless networks.

“A good system will have the flexibility to support the workflows and technology you want to use,” says Johan Terve, vice president of marketing at Aptilo Networks (www.aptilo.com). “There are some vendors on the market that allow you to push the daily operation of the service all the way out to the guests while maintaining traceability and control.”

Best Tip:

Keep It Simple For Smaller Operations

There are simple solutions for small enterprises where you put an additional box in your network with a printer to print out access codes. This allows for quick and easy access to the network but doesn’t provide enough security for truly confidential data.

“This may be the perfect solution for a single-site company with no great need for central control or high security,” says Johan Terve, vice president of marketing at Aptilo Networks (www.aptilo.com).

an in-house account is accessing or trying to access confidential material. This can be achieved using SSIDs (service set identifiers).

“One obvious security measure is, of course, to make sure that you use different SSIDs for the guests and internal users,” Terve says. “The guest SSID will then only route traffic to the Internet and thus separate the internal traffic from the guest traffic.”

An even simpler solution is suggested by Aleksey Tsalolikhin, chief system administrator for Unix consultancy Vertical Sys-admin (www.verticalsysadmin.com).

“I prefer not to allow guest access to the main corporate network,” Tsalolikhin says. “I provide a separate network specifically for guest use. Sometimes this might be as simple as a connection to a DSL line for a smaller operation.” ■

NetApp To Acquire Bycast

NetApp announced it plans to acquire Bycast, a Vancouver, British Columbia,-based developer of object-based storage software. Bycast’s software makes it possible to store data based on object names and metadata, making it easier for customers to access. Although Bycast’s software was developed with healthcare applications in mind, NetApp will be able to use it in an array of markets. NetApp’s acquisition of Bycast is expected to take place sometime in May, and financial details have not been released.

Study Reinforces Need To Restrict Admin Rights

A recent study from BeyondTrust asserts that removing administrative rights on Windows 7 computers will lessen vulnerabilities. Specifically, the study found that removing admin rights will lessen risks posed by 90% of the vulnerabilities that have been recorded in Win7 and 100% of vulnerabilities recorded for Microsoft Office. In addition, limiting the administrative rights on Win7 computers will avoid 94% of vulnerabilities in all versions of Internet Explorer and 64% of all Microsoft vulnerabilities reported last year.

Panasonic Solutions Company Created

Panasonic announced it has created the Panasonic Solutions Co. out of its North American operations. The new department will include Panasonic Computer Solutions, Panasonic Broadcast and Television Systems, and Panasonic Professional Display and will focus primarily on business-to-business operations. The products under the umbrella of Panasonic Solutions will include the Panasonic Toughbook notebooks, projectors, and more. Additionally, this new branch will work directly with distributors rather than with other Panasonic branches.

Report Educates Executives About Security

A new report is encouraging corporate executives to get involved with cybersecurity because of the great financial losses companies face in the wake of a data breach. “The Financial Management of Cyber Risk,” which was released by the Internet Security Alliance and the American National Standards Institute, reports that a company would likely have to pay \$2 million to clean up a situation where 10,000 personal information records were lost or stolen. The report is meant to educate executives so they realize that data security reaches beyond the scope of the IT department. Through education, executives can learn best practices for security policies to avoid a future data breach.

Microsoft Announces Service Pack 1 For Exchange 2010

Microsoft says it will release a beta version of Service Pack 1 for Exchange 2010 in June at the TechEd North America conference. The company says the update will feature OWA (Outlook Web App), archiving and discovery, and mobility and user interface improvements. The initial release of Exchange 2010 in November marked Microsoft’s first offering featuring integrated email archiving. On The Microsoft Exchange Team Blog, Michael Atalla said the improvements featured in SP1 came from feedback from users. “I am excited about how, in a very short time period, we’ve been able to quickly respond and introduce these improvements and innovation to Exchange 2010.”



BONUS TIPS

■ **Add gateways at key areas.** Once processes and workflows are understood, the decision can then be made on how to implement guest access. Larger SMEs that are more geographically distributed might see value in adding access gateways and put them at the breakout points to the Internet. In an operation with hundreds of

offices globally, you might only have three regional breakout points to the Internet. In this case, redundant pairs of high-performance carrier-class access controllers can be implemented at the breakout points, says Johan Terve, vice president of marketing at Aptilo Networks (www.aptilo.com).

■ **Bans don’t work.** A big mistake is to ban the deployment of a guest Internet service because of fears that it wouldn’t be secure enough.

“The risk here is that some local offices may take the initiative themselves and implement a truly nonsecure solution,” Terve says.

CASE STUDY

From The Core To The Edge

Brocade Gives Arena The Most Bang For Its Buck

by Julie Sartain

THE BANK OF Oklahoma Center in Tulsa, Okla., was designed by the famous architect Cesar Pelli and built between August 2005 and August 2008. It is a multipurpose arena for indoor sports, concerts, and other similar events. It covers 565,000 square feet, is 134 feet tall, and has a maximum seating capacity of 19,199.

The communications and electronic challenges for a structure of this magnitude were staggering. According to I.J. Rosenblum, senior manager of technology at the BOK Center, BOK needed a network that could handle building access, camera surveillance, audio, computer traffic, wireless traffic, video menu boards, digital signage (advertising), ATMs, point of sale for food and beverage, telephone systems, and in-house video broadcasts.

“This was a new design from the beginning,” says Rosenblum, “so we were looking at the most bang for our buck when it came to the network infrastructure. We wanted (and needed) a system that was flexible and easy to use but still had features like virtual local-area networks (VLANs), quality of service (QoS), and bandwidth throttling.”

According to Rosenblum, BOK purchased multiple switches from Brocade

Communications Systems (www.brocade.com) when the team was designing the BOK Center. “Our initial inventory included three FastIron SuperX, one FastIron SX800, 12 FastIron GS624P, and two FastIron GS648P devices.”

Additionally, adds Rosenblum, BOK purchased 80 wireless access points, a wireless access manager, and the IronView Network Manager. “We use our network infrastructure to run all of our services. We have 10Gb fiber running between four IFD closets on each floor of the arena and 1Gb fiber running between floors.”

The Setup

“The Brocade FastIron SuperX switch is used at the network core,” says Ninad Desai, product manager of IP networking at Brocade. “It is available in three chassis sizes in order to provide a scalable, secure, low-latency, and fault-tolerant infrastructure for cost-effective deployment of voice over IP, wireless, and high-capacity data services.”

At the network edge, the FastIron GS (of compact fixed configuration) switches deliver Class 3 PoE throughout the facility as needed because of their instant PoE upgrade capacity, explains Desai. To provide mobility connectivity to BOK’s thousands of customers and concession vendors, the center uses Brocade’s mobility solution. This lets customers access the Internet and concession vendors to process point-of-sale transactions, which are responsible for the majority of BOK’s recurring revenue.

These new switches feature redundant power, redundant fans and management modules, load-sharing switch fabrics, high-density 10/100/1000Mbps PoE and hardware-based low-latency switching, and routing for high-performance and reliable network convergence. Additional security features, including an IP source guard, the dynamic ARP (Address Resolution Protocol) inspection, and DHCP snooping, shield the enterprise from internal and external threats, notes Desai.

“The FastIron SuperX family features a unique dual-power distribution design, which enhances power operation and simplifies system configuration,” says Desai. The PoE and system power distribution subsystems are independent, Desai says, which eliminates the reliability and configuration complexity associated with chassis designs that rely on a common system and PoE power design. Power consumption for system and PoE power are engineered, provisioned, and managed independent of one another. The two power subsystems support N+1 redundancy to ensure continuous operation in the event of a power module failure.

The Decision

“We considered all the major brands of networking equipment when we made our decision for the BOK Center,” Rosenblum says. “The decision to go with Brocade equipment was twofold: first, the City of Tulsa had a pre-existing purchasing contract with Brocade; however, if the



Brocade equipment had not been right for the installation, we would have purchased other products. The second part of the decision was, honestly, bang for the buck. When we looked at the features that the Brocade switches offered vs. the other manufacturers, it was obvious that we were making the right financial and technological decision to go with Brocade.”

According to Desai, from a product-level point-of-view, the FastIron SX and GS switches deliver line-rate performance. Many other competitive vendors oversubscribe ports to the point where performance can be compromised when many users or applications begin to travel over the network. This ultimately creates frustration for network users and can significantly slow or stall traffic, he adds.

“The FastIron GS actually has the unique capability of being PoE and 10GbE field-upgradeable,” says Desai, “so BOK can add PoE ports as they need them to power WLAN access points, VoIP telephones, and IP video surveillance cameras. This not only protects their investment but virtually eliminates ‘forklift’ upgrades to PoE and 10GbE in the future.”

On-Court Training

The implementation went very well, considering BOK’s tight schedule, notes Rosenblum. “We had less than 14 days from the day we could enter the switch closets to have our offices up and running and be ready for our first event.”

Initial setup included services from Brocade, helping to simplify BOK’s installation. “We received two days of training with our installation, which has enabled us to learn the CLI [command-line interface] and the GUI for controlling the hardware. It would have been nice to have more time before we were up and running, but that just isn’t always available,” adds Rosenblum.

“These products worked exactly as we had planned,” says Rosenblum. “We now have a solid infrastructure for our network traffic. Our VoIP phones have not had any problems with QoS. Our video surveillance is working exactly as intended. Even the items that weren’t in our initial thoughts (that we have grown into after we opened) are not taxing our infrastructure.”

According to Rosenblum, BOK’s network provides the flexibility to make the changes its clients need on a daily basis. The GUI in the IronView network manager has been extremely helpful in the Artist Area, he says, because each tour often requires a different setup. The GUI lets users change port configurations quickly and easily between preset VLANs, so the system can deliver between 768Kbps to 6Mbps speed and add VoIP to ports to suit BOK’s clients’ needs.

“My only regret was not purchasing additional ports in our initial orders,” says Rosenblum. “There were several revisions during the purchasing and development phase that made the initial port counts incorrect in some areas of our buildings. But we just talked with our Brocade representatives, made some additional purchases, and the ports were delivered immediately. The additional ports allowed us to function as we intended.”

Future Game Plans

As for BOK’s future plans, Rosenblum says, it’s currently finishing the extension of its network to the Tulsa Convention Center. “We have attached the buildings with 10Gb fiber connections. We have also extended our wireless network to cover both buildings.” With the extension, the computer network, VoIP, security monitoring, and wireless access points are all managed centrally from the BOK Center, reducing its overall expenses during renovations, Rosenblum says. ■

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Huge iPad Shipments Expected This Year

Key components of Apple's past successes with its devices, including attractive designs, compelling apps, and multitouch ability, will help offset the initial omission of Adobe Flash from Apple's new iPad and send demand soaring this year and beyond, iSuppli recently predicted. In fact, iSuppli expects global iPad sales to hit 7.1 million units this year, double to 14.4 million next year, and reach 20.1 million in 2012—all numbers iSuppli judges as conservative. iSuppli expects early adopters to be among the drivers propelling sales this year. In coming years, sales factors will include a flood of new applications, improved functionality, and declining prices available to consumers. "The tablet form factor is ideally suited to touch. The iPad represents an intriguing mix of two devices that have struggled to gain traction for years: Internet appliances and tablet PCs," says iSuppli's Rhoda Alexander.

Experts Believe Cyber Attack Is Looming

There is a high possibility that a cyber attack originating from a foreign country could hit critical U.S. IT infrastructure within a year's time. Such is the view of 61% of 201 federal IT decision makers recently polled for a survey conducted for Lumension by Clarus Research Group. Additionally, 33% indicate they've already experienced such an attack from a foreign nation or terrorist group in the past 12 months, while 42% judge the United States' ability to prevent or handle such attacks as fair or poor. Just 6% judge the ability as being excellent. Further, 64% cite increasing sophistication and growth in the number of cyber attacks as IT's top security risk, while 49% feel negligent or malicious employees or insiders are the biggest security risk. Lumension CEO Pat Clawson says, "The traditional government responses we've seen so far, such as naming a security coordinator, announcing a cybersecurity initiative, and focusing on compliance initiatives, will not alone successfully address this problem."

Windows 7 Passes 10% Penetration

Microsoft's Windows 7 operating system continues to post impressive gains in market share. According to Net Applications' NetMarketShare statistics tracking



service, Win7 passed the 10% milestone in March with a 10.23% share of devices with Internet access. That's a gain of about 1.3% over February's figure, mostly at the expense of Windows Vista (16.01%, down 0.5% for the month) and market dominator Windows XP (off a full percentage point to 64.46%). Further down the list are Mac OS X 10.5 (2.26%), Mac OS X 10.6 (2.13%), and Linux (1.03%).

Intel Reports Strong First Quarter

Intel reported a net income of \$2.4 billion, giving the chip maker its best first quarter ever, it says. Income rose 288% over the same quarter last year, and revenue for the first quarter was \$10.3 billion, an increase of 44% over the first quarter a year ago. Those numbers beat analysts' estimates of \$2.13 billion in net income and \$9.8 billion in revenue. The earnings bump comes from increased sales of chips for servers, a purchase that many companies put off during the recession. Intel also cited increased demand for chips used in higher-end laptops as many companies upgraded their employees' computers.

Looking Ahead

A Glimpse At Application Delivery Trends

by Elizabeth Millard

APPLICATION DELIVERY is a changing technology, especially as more enterprise employees become data hogs on both mobile and stationary devices. "Users will continue to demand the same type of experience in the workplace that they've come to expect in other areas of their lives," says Steven Shalita, vice president of marketing for NetScout Systems (www.netscout.com). "They'll increasingly want information delivered via a rich, multi-media format, and they'll want video and more social networking applications to be available in the office environment on their smart devices."

Because of this, companies will need to think about application delivery infrastructure and application performance, he adds. With that in mind, here's a look at a couple of the top application delivery trends in the near future.

The Year Ahead

One of the largest delivery changes will be increased focus on Web-delivered applications, many experts believe. Anna Chagnon, president and CEO of Bitstream (www.bitstream.com), notes that mobile phones are becoming more capable, with faster processors, more storage, larger screens, and more advanced input mechanisms. At the same time, fast 3G data networks are becoming ubiquitously deployed, with 4G networks making their debut.

"If you look at competing mobile platforms, you find a very fragmented mobile application landscape," says Chagnon. "But what is common across all these

Keep Data Flowing

Here are some tactics for meeting the challenges and making sure that application delivery is working efficiently for your SME:

- Recalibrate mobile strategies to utilize Internet-based applications.
- Assure service delivery by taking the perspectives of the network, the services, the service delivery environment, and the user; any approach that doesn't look at all of the related elements in the service delivery chain will only provide a partial answer.
- Give IT staff packet-level visibility into the applications traversing the network, so they become armed with the knowledge and analysis required to spot and rectify application delivery problems before the user even knows there's an issue.

Key Points

- Look for more Internet-based applications, especially as mobile platforms become more sophisticated.
- Virtualization and cloud environments will play a key role in application delivery in the near future.
- Challenges with delivery methods range from increasing complexity to storage issues, but vendors and others are already working to minimize difficulties.

platforms, plus the feature phone platforms, is the ability to access the Internet and view the Web. Therefore, the ability to deliver applications via the Internet in a large way solves some of the biggest problems posed by market fragmentation."

That shift from the desktop to the Internet will likely bring in the SaaS model more strongly, adds Andreas Grabner, technology strategist at dynaTrace

One of the largest delivery changes will be increased focus on Web-delivered applications, many experts believe.

Software (www.dynatrace.com). The model enables application delivery to become much more agile, he says, with continual updates and improvements so that new features, bug fixes, or performance optimizations can happen on a daily basis or even faster.

He says, "SaaS hosted on the cloud will take off in 2010, even more than it already has. This will have the consequence of increasing complexity, due to the number and diversity of devices that can access each application."

Virtualization and cloud computing will play significant roles in application delivery in the year ahead, agrees Paula Skokowski, chief marketing officer for Accellion (www.accellion.com). She notes that enterprise adoption of virtualization is now mainstream, so companies can expect to see rapid utilization of applications hosted in the cloud, with subsequent benefits such as ease of implementation, scalability, and improved bandwidth that lowers costs. She says, "Applications that integrate both on-premise and off-premise deployment options for cloud and virtual environments, which work together seamlessly, will become increasingly popular."

The transition to virtual and cloud environments should remove more challenges than it creates, Skokowski says, because application delivery should no longer be a huge IT project with large upfront investments and drawn-out schedules. "Application delivery can start small and then scale," she adds.

In addition to being used for mobile devices, this delivery method can also be useful for virtual desktops, notes Ryan Petersen, CEO of the OCZ Technology Group (www.ocztechnology.com), who believes that the strategy can improve optimization and traffic management, as well as reduce overall maintenance costs. There's been resistance to virtual desktops in the past because of poor performance, Petersen says, but the year ahead should bring changes in that regard.

"The biggest application delivery trends in 2010 will include pushing more information," he says. "Virtualization will place increasing demands on the actual delivery infrastructure, requiring IT architects to find new ways to improve performance and optimization."

Application Delivery Challenges

For Internet-based applications, the biggest issue will be that mobile Web browsers will have to run like desktop computer Web browsers in terms of how they work with Web programming languages, notes Bitstream's Chagnon. Fortunately, this challenge is already being addressed, so she expects that it won't be long before browsers are available to all mobile phones that can run Web-based apps.

For SaaS users, flexibility will come at the cost of exploding complexity, says Grabner. On top of that, performance in such an environment will be tricky because, unlike desktop apps issues that might affect individual users,

centralized applications impact the entire user population.

In terms of virtualization, the challenge will be finding efficient ways to deliver applications, says Petersen, who points out that virtualization technology encompasses many elements, such as processing, storage, networks, desktops, and even the nature of applications themselves.

One of the biggest bottlenecks for all these components to come together has been the performance of traditional rotational-based storage, Petersen says: "In the past, IT architects have had to build huge hard disk arrays just to achieve the I/Os necessary to meet their minimum application delivery requirements. These arrays are costly both to build and to maintain." The year ahead will likely have more focus on solid-state storage, which he thinks is a game-changing, disruptive technology that can alleviate the bottleneck issue.

Whether an enterprise uses virtualization or a cloud environment or simply integrates more Internet-based apps into its strategy, it's clear that application delivery should be shifting in the year ahead and beyond. ■

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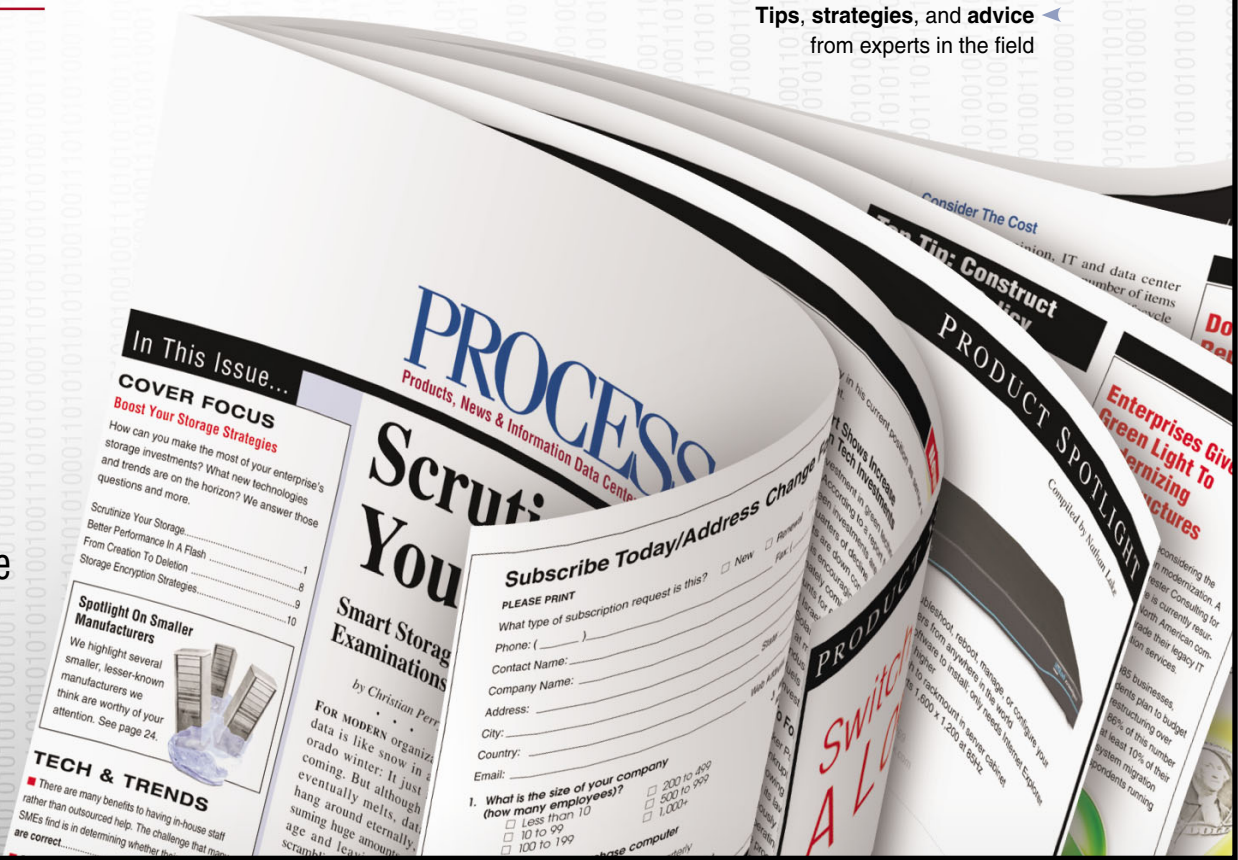
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Report Names Top 10 Riskiest Online Cities

Seattle is the riskiest U.S. city for cybercrime. That's according to the "Norton Top 10 Riskiest Online Cities Report" released by Norton from Symantec with the help of independent research firm Sperling's BestPlaces. The two companies compiled data on 50 cities, focusing on the number of malware attacks, spam zombies, and infected computers and the levels of Internet access, including the number of Wi-Fi hotspots.



The report details the top 10 U.S. cities that are most susceptible to cybercrime. The other cities making the top 10 list are, in order: Boston; Washington, D.C.; San Francisco; Raleigh, N.C.; Atlanta; Minneapolis; Denver; Austin, Texas; and Portland, Ore.

Regardless of whether you live in one of these cities, Bernard Laroche, product marketing director at Symantec, says the report should remind businesses and IT administrators that mobile corporate end points can easily introduce threats into the network. "It is common for employees to use their company-issued laptops for online shopping, social networking, and personal Internet browsing while connected to Wi-Fi hotspots. These activities can quietly infect systems due to compromised wireless access points or Web sites."

Seemingly benign online activities that Laroche considers risky include shopping online, sending email, banking online (paying bills or accessing financial information), and accessing the Internet through Wi-Fi hotspots. Instances of such online behavior increased for the cities on the list. For example, more people in Seattle accessed their bank accounts or checked financial information online.

Protect The Enterprise

Although Laroche admits it is impossible to completely control employees' online behavior, he suggests that enterprises educate employees and help them become more tech-savvy.

Laroche recommends enterprises have up-to-date security software running at all times. "Cybercriminals can also walk right into the corporate network through unpatched systems, so it is important to update your OS and applications regularly."

He says the best way to reduce the risk of online threats in the business environment is to simply "be smart. . . . Don't open email attachments from senders you don't recognize, don't click on links or URLs in emails or social media messages from senders you don't know, and don't assume every email or message you get from a known person or a social networking 'friend' is actually from that individual," Laroche advises. "In general, SMBs should simply be extra cautious with their sensitive information and know that there are bad guys out there trying to take advantage of them."

by Antona Beckman

Availability Is Important (Again)

Identifying The Chief Concerns Among Data Center Management

by Christian Perry

IN THE WORLD OF no-brainers, data center managers pegging availability as a top concern would seem to take the cake. After all, the success of any data center is directly tied to its unfailing ability to deliver information and services around the clock. Yet factors such as heat density and monitoring were more pressing concerns only a year ago, according to survey data compiled by the Data Center Users' Group.

"I would say that availability has always been a major concern for data center managers," says Ron Bednar, manager for marketing and customer insight at Emerson Network Power's Liebert Products (www.liebert.com). "We reached a point in the evolution of data centers, however, when availability seemed to be taken for granted. As the fall 2009 DCUG survey shows, that no longer is the case. So the question becomes, why?"

Indeed, in the most recent DCUG survey, availability topped infrastructure management and heat density as the leading data center concern, prompting a closer look at the catalysts behind this rise. This examination ultimately reveals a perpetually strengthening wall of uptime requirements and threats that are forcing data

Key Points

- After falling behind heat, power, and efficiency in recent years, availability is now the top concern among data centers, according to the fall 2009 Data Center Users' Group survey.
- Users are accessing information around the clock, and they're no longer willing to wait more than a few moments to get it, forcing data centers to seek constant uptime.
- Redundancy, change management, and frequent inspections can help data center managers pinpoint potential problems that can harm availability.

or a 'Sorry, we're performing maintenance; please come back later' will find itself at a competitive disadvantage," she says.

Another factor that's fueling the focus on availability is the increasingly impatient nature of users, Stadtmueller adds. That nature stems in part from technology advances, which have now graced us with smartphones, laptops, and other devices that can provide anytime, anywhere access to data. As such, customers are more likely to abandon their shopping carts when pages load slowly, and users won't hesitate to

costs, the threat to system availability increases. He adds that data centers tend to point to past success as an indicator of future results.

"The fact that a data center has never experienced an outage can result in misplaced complacency, especially when [many] factors are conspiring to cause one. Data center managers need to realize that as time goes on and facility use increases, additional attention needs to be paid to the proper operations and maintenance of the facility systems," Woolley says.

Staying On Top

Although large enterprises can afford the redundancy necessary to guarantee constant uptime, smaller organizations may struggle to obtain the equipment necessary to achieve availability. Despite that challenge, Stadtmueller says that SMEs can access the high availability required for critical applications because many hosting providers offer affordable dedicated hosting at sites that deliver high levels of redundancy and security.

She also stresses the need for sufficient network capacity and a prioritization scheme if another data center is to be used as a remote backup. On the same page is Chris Hardin, president of CDH Consulting, who says that having good disaster recovery and change management strategies can help data centers avoid uptime-related threats.

"A solid change management process in place helps to plan activities such as maintenance, service, and repair of mission-critical infrastructure within the data center facility," Hardin says. "These procedures help to minimize the downtime in your mission-critical data center facility and maximize uptime within the data center."

Woolley also recommends "inspecting what you expect," or frequently inspecting systems, processes, knowledge, and actions to ensure that the data center is functioning properly and meeting expectations. "A formal quality control system is an absolute necessity to measure results against expectations. Errors will always occur, especially when people are involved. The ability to avoid outages, or at the very least to 'fail small,' is predicated on the ability to detect errors early in the process before they can result in serious failure," he says.

Another way to detect potential problems that can impact availability is conducting frequent resiliency audits. Dr. Mickey S. Zandi, managing principal, consulting services, SunGard Availability Services (www.availability.sungard.com), says that such audits can help data center managers understand their distribution of power, utilization, and consumption.

"This allows an organization to detect any issues with the infrastructure and to make them perform at higher levels or better. Data center managers must know, in real time, their consumption and utilization for power and cooling. It would be like having a car with no gauges—you have no idea what your oil is doing, what your cooling is doing, or what your speed is. It is like you are driving blind," Zandi says. ¹²

Top 5 Data Center Concerns

Availability has hovered near the top of data center concerns in recent years, but it took the outright top spot in the fall 2009 Data Center Users' Group survey, mirroring increasing concerns among data center managers about the need to keep their environments up and running at all times.

Fall 2005	Spring 2008	Spring 2009	Fall 2009
Heat Density	Heat Density	Heat Density	Availability
Power Density	Power Density	Efficiency	Infrastructure Management
Availability	Availability	Adequate Monitoring	Heat Density
Fuzzy growth plans	Adequate Monitoring	Availability	Efficiency
Technology Changes	Efficiency	Power Density	Power Density
Adequate Monitoring			

Figure 1. Summary results from Data Center Users' Group surveys.

SOURCE: DCUG

center managers to step back and determine how best to approach availability.

Culture Change

According to Lynda Stadtmueller, senior research analyst with Frost & Sullivan's Stratecast division, several business trends and challenges have converged to make uptime increasingly critical. One is the fact that business users—including employees, partners, and customers—are now active around the clock, so applications in turn need to be available when users want them.

"It used to be OK to shut down machines and apps for routine maintenance in the middle of the night or weekends, but now the middle of the night is working hours for customers or suppliers across the ocean. And customers and employees are working straight through the weekends as they deal with additional workloads and resource constraints brought on by the poor economy. The company that returns an error message

exit sluggish applications, she says. Finally, the economy itself has created a need to do more with less, pushing organizations to manage declining workforces with more automation.

"Businesses automate more of their processes and increasingly rely on other automated processes to monitor and track them," she explains. "As applications and databases increasingly share information, the temporary loss of one server or app can impact a whole host of downstream processes. Depending on scope, this can hurt productivity. It certainly will hurt the credibility of the IT manager who 'owns' the application—especially if it's new."

The consequences of the economy also trickle down to the data center equipment. Bob Woolley, vice president of facility operations and quality systems at Lee Technologies (www.leetechnologies.com), notes that when equipment is pushed to capacity and maintenance is reduced to cut

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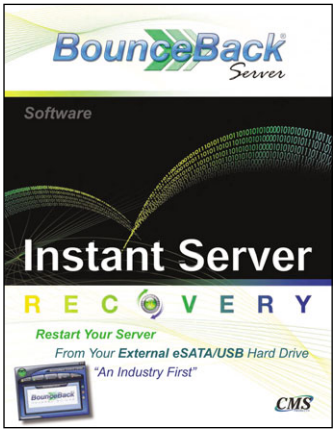
by Kris Glaser Brambila

SERVER DOWNTIME can be a serious issue if you don't have the right tools to help you get back on your feet. BounceBack Server from CMS Products can save your organization precious time by backing up your entire Windows server on an external eSATA or USB drive.

"Given that almost everything in a small business is handled through its computer system, [including] inventory records, point-of-sale transactions, accounting data, customer data, etc., having that system unavailable for use can have a very damaging effect on a business in terms of lost revenue and negative impact on their customers," says Gary Streuter, vice president of marketing at CMS Products.

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The BounceBack Server software, which you can purchase individually or installed on an ABS-Server drive with capacities ranging from 1TB to 4TB, offers a range of backup and restore options to fit the needs of any organization. For starters, the Instant Server Recovery option immediately restarts your server from your external backup drive. Instant Server Recovery "provides small-business users with the opportunity to keep their Windows Server business system up and running in the event of a hard drive failure," Streuter says.

With BounceBack Server, you can recover your entire server to its last backed up state with One Button Recovery or use the QuickRestore tool to reinstate individual files and folders. You can customize which data you want to back up, choose multiple backup destinations, encrypt with 256-bit AES encryption, or store your server information on a local or mapped network drive. BounceBack Server also lets you schedule a date and time to perform an automatic, unattended backup.

FEATURED PRODUCT

The Increasing Importance Of CDP
A Replacement For Point-In-Time Backups

EVOLVING TRENDS in data protection, including high data growth rates and more stringent recovery requirements, will increase the importance of CDP (continuous data protection) technology.

The increasing size of data sets will overwhelm point in time data protection technologies, and even incremental approaches that focus on backing up the changed data have scalability limitations.

More stringent recovery requirements are also outpacing the ability of point in time data protection products to keep up. Both RPO and RTO are issues in local and remote recoveries. A need to minimize data loss on recovery pushes administrators to run more backups, while the performance impacts of backups on production operations push administrators to run fewer backups. How do you reconcile the two? RTO issues are pretty well handled through the use of disk-based recovery media, so that is not necessarily a unique advantage that CDP offers.

However, you need to consider the impact of recovery reliability on both RPO and RTO. If you can't reliably recover from your first selected recovery point, then generally you'll go to your

next most recent available recovery point. With periodic backups, your data loss is calculated by how frequently you're doing backups, so if you have to make a second attempt to recover successfully in 10% of the cases, you are losing more data and doubling the recovery time.

The periodic nature of backups is the problem, and the longer the interval between backups, the more of a problem it is. Deduplication technology is really just a stopgap in the ultimate resolution to the problem of protecting large data sets.

CDP technology, such as that found in InMage, eliminates point in time backups and all the overhead problems associated with them, and it minimizes data loss on recovery better than any other technology. In addition, it allows production data sets to be repurposed on-demand without impacting production environments.

Most enterprises create multiple copies of production data on an ongoing basis. CDP lets you retroactively create copies of production data sets whenever you want. Effective CDP solutions, such as InMage, have bookmarking capabilities to mark recovery points, business process points, or other major events that may be of future value.

To effectively repurpose data for off-host use, the CDP implementation will have to be network-based. Products such as InMage share the load between the CX appliance and the target server(s), so the additional load of offhost use does not impact the production server in any way.

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by Marty Sems

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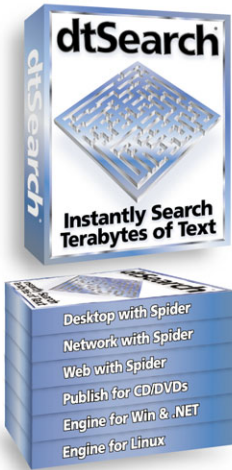
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images intact. The product line converts other file types (MS Office, OpenOffice, ZIP, etc.) to HTML for browser display with search hits highlighted. dtSearch products also support emails, including the full text of attachments.

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FEATURE PACKAGE

Effective Data Center Management

What does it take to be the best data center/IT manager possible? We talked with some experts to find out their tips and advice.

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■ At a time when every data center dollar counts, managers are increasingly under the gun to create budgets that mesh with the business outlook of their organizations.

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■ There's plenty of management advice out there, but when it comes to keeping data center employees engaged, not all of it will apply.

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■ Adaptability in the data center includes having the ability to continually update and expand your skill sets so that you can handle new technologies and complexities and respond to new threats in a proactive fashion.

Align IT & Business | 28

■ Business alignment is fast becoming an IT core competency, and companies that move quickly to refocus their strategies and tactics along those lines will ultimately be more competitive than those that do not.



Build A Better Budget

Do A More Effective Job Of Setting & Adhering To Budgets With These Strategic Tips

by Christian Perry

AT A TIME WHEN every data center dollar counts, managers are increasingly under the gun to create budgets that mesh with the business outlook of their organizations. If that's not enough of a challenge, managers then must stay true to those budgets even as the economy rises and falls. Developing and adhering to budgets is never an exact science, but revolving your efforts around a solid set of strategic guidelines can help ensure your budget is the best it can be.

Draw A Roadmap

Mapping your way to an effective budget is a wise strategy, advises John Matelski, CIO for Georgia's Gwinnett County government (www.gwinnettcountry.com). With a formal roadmap, not only can managers develop better budgets, but decision makers outside the IT group can consistently select projects and services that support the organization's long-range strategies.

He recommends following four basic steps:

1. Make a complete list of all supported software, including versions and patch levels, regardless of whether the programs are "official." Determine how much time you spend supporting each application and prioritize the applications in terms of importance and support effort required.
2. Repeat Step 1 for hardware and networking devices.
3. Gather a list of the planned upgrades and new deployments your organization will be performing. Gather the same information from the department heads to ensure you have an enterprise view.
4. Create a matrix of these applications projected over the planned time scale and compare them to the vendor rollout plans for these products.

"Once these items have been gathered, create a reference document to work from,"

says Matelski, who also serves as director of advocacy for the Independent Oracle Users Group (www.ioug.org). "This document then becomes your roadmap—the actual list of supported applications and equipment as well as services that your IT organization will perform. It also provides the forward-looking plans and dates for these items to help facilitate the budgeting process and to document your needs."

Service Strategy

According to Michel Feaster, vice president of products at Apptio (www.apptio.com), it's crucial to understand the fully loaded costs of delivering an IT service, including all unit cost drivers, instead of just individual infrastructure components.

"For example, the 'fully loaded' cost of email includes server hardware, storage, power, labor, software licenses, etc.," Feaster says. "Understanding how unit costs are allocated to services costs enables IT to understand the impact to

changes in service demand and which cost drivers will go up [such as labor] or down [such as hardware through virtualization] over time."

Feaster recommends creating a data center budget based on IT services, not general ledger cost pools, and starting the budgeting process with changes in demand from the business units. Using this strategy, managers can more directly accommodate changes in IT demands, which Feaster identifies as the biggest driver in infrastructure changes.

Manage Your Time

Successfully adhering to budgets depends on your ability to stick with management fundamentals. Jay Hunter, senior network engineer of messaging for the National Education Association (www.nea.org), recommends being clear about your goals and conducting meetings that can determine the progress of those goals. Further, don't let time become your enemy. In fact, Hunter adds initial cushions to his timelines by making estimates and then quadrupling the time required to meet them.

"I multiply them by four purposely so that I can allow for incorrect time estimates, downtime, and unforeseen emergencies and [because] the staff still needs to keep the day-to-day operations running," Hunter says. "If I am using contractors, they too need to be accountable, and

a penalty for not completing the project on time should be included in the contract. I don't see this often enough, and without it, a contractor can find all manner of reasons to extend the time and add manpower to the project."

Eye On Power

Developing an effective budget is a tough prospect if you're not looking at the power bill—and many IT organizations aren't, says Chris Crosby, senior vice president of corporate development at Digital Realty Trust (www.digitalrealtytrust.com). In fact, he says it's imperative that managers understand how much power their data center is using to drive its computing devices.

Key Points

- A roadmap that takes stock of current software, hardware, and networking devices, along with planned upgrades and deployments, can help form a basis for accurate budgets.
- To avoid falling off track with your budget, always tack on additional time to your initial project estimates to compensate for inevitable downtime or emergencies.
- Without an understanding of how much power is required by your data center, it's difficult to accurately build a budget, so be sure to monitor power and obtain insight on the logical flow of power usage.

"To obtain this information, you need to be metering your power down to the PDU at a minimum," he says. "Your power bill tells you how much power the entire data center is consuming, but without understanding what portion of that is devoted to your actual IT load, you have no idea how efficiently your facility is operating. Without this information, you really have no baseline to begin your budgeting process or to evaluate improvement attempts."

Power also plays into the adherence scheme because power use has peaks and valleys during the day, week, month, and even season, Crosby says. He recommends that managers get a better handle on the logical flow of power usage to more accurately project use and costs.

Know Your Business Needs

Although IT ideally should be receiving input and feedback from the business, it's often up to the IT manager to perform the role of business analyst or product manager, says Evan Powell, CEO of Nexenta (www.nexenta.com). Through this approach, IT managers can get a better handle on what the business needs and in turn more accurately build a budget.

"In other words, instead of simply remembering the requests made by the business and end users, IT managers should try to formulate for review a view of the highest-priority projects," Powell says. "The projects, and their prioritization, should then be reviewed with the end users."

Top Tip: Understand The Data Center Customer

Data centers ultimately exist to provide services to customers, whether they are employees, business customers, or other technical groups in the organization. Jack Probst, principal consultant for Pink Elephant (www.pinkelephant.com), says that data center budgets hinge partly on how well managers understand who their customers are and what services they provide to those customers. This understanding helps the data center to justify its budget when it aligns specific operations

and services with specific customers and their needs.

"Next, the data center must understand clearly the requirements or demand that the customer has of the data center for the upcoming budget cycle with respect to the services the data center provides," Probst says. "If the data center does not understand what they support and how they support it, developing the budget is truly shooting in the dark. By understanding clearly a shift in service demand for the upcoming budget

cycle, the data center can state their budget requirements in terms that have value to their customers."

Probst adds that managers must understand (in reasonable detail) the incremental costs associated with the elements of services provisioned to the data center's customers. Although historical costs, such as those found in the previous year's budget, must play into the service cost equation, managers must include the impact of customer demand, he says.

FEATURE PACKAGE



Manage Your Team Effectively

Keep Employees Productive & Motivated
By Changing A Few Key Tactics

by Elizabeth Millard
• • •
THERE’S PLENTY OF management advice out there, but when it comes to keeping data center employees engaged, not all of it will apply. IT types are a special breed compared to other types of workers, and keeping them challenged, motivated, and productive takes unique skills. Numerous personnel clashes and communication issues can be reduced through effective management practices; with that in mind, here are a few tips on how to maintain a conflict-free environment.

Re-Recruit Your Team

“When you’re recruiting top talent, you ask them how they see themselves developing and what they like doing, maybe what they want to add to the company,” says Alan Vengel, author of “20 Minutes to a Top Performer” and head of Vengel Consulting. “Then they’re hired and put to work, and we don’t ask those questions again. In order to reinvigorate your team, it’s not so much about motivation as it is about engagement.”
Being fully engaged in a job makes the work fulfilling, he says, and gives meaning to the everyday tasks. When there’s

Key Points

- Keep checking in with employees after hiring them to determine their development needs, motivation levels, and personal circumstances, just as you would during an initial interview process.
- Articulate to employees how they fit into overall company goals or which contributions are having a broader effect on company operations. This makes employees feel more invested in the company and gives their jobs worth.
- Determine your own job happiness level as a manager; if a boss is feeling frustrated and unmotivated, it’s likely the team will follow suit.

increasing turnover or burnout, the solution might not be to hire more employees but to fire up the existing staff. To do that, Vengel believes that a manager must be observant and willing to think about individual needs.
“A really astute manager can pay attention to a person and ask, ‘How can we change this up for you?’ and talk about what type of learning they want to

do or how the job can be made more interesting,” he says. “Think about the questions you ask during an interview and keep asking those questions on a regular basis with employees. What do they see in terms of their own development? Where do they want to go? What do they like about what they’re doing? The more an individual feels that the manager is listening, the more engaged he or she becomes.”

Communicate How An Employee Fits With The Company

Everyone wants to feel a sense of accomplishment, and for data center employees, that satisfaction may come from completing projects on time and under budget, but it also stems from feeling connected to the company. Often, IT is in its own silo of technology integration and troubleshooting, and employees only interact with other departments when there are problems.
“The most effective way I’ve seen to motivate any employee is to make them understand the underlying reasons for their activities and how they fit into the overall company goals,” says Dan Cobb, vice president of enterprise solutions at staffing agency Yoh (www.yoh.com). “Beyond contests and gimmicks, this gives the job worth. That is never more true than in a data center environment.”
By design, a data center is focused on the here and now, in terms of what’s working and what isn’t, Cobb notes, and this is important tactical information. But by allowing employees to see the larger picture, it also provides them with the ability to leverage their understanding of systems and metrics and proactively

foresee alternative uses for the information not currently being utilized. Also, he adds, “Greater connection to a larger whole may bring greater understanding of why their job is important. Ideally, greater job satisfaction equals motivation, and that equals production.”

Handle Salary & Promotion Discussions Proactively

One of the most challenging aspects of management is the “salary conversation,” notes Vengel, especially at a time when budgets are tight. He notes, “You can’t give them more pay because you don’t have it, you don’t have more benefits, and you can’t promise job security. As a result, some managers try to avoid this conversation entirely.”
Instead, he advises managers to look at what they can control and ask the question: What else can I do for you? Rather than throwing out a number of options, asking the employees about their needs and wants often gets at the heart of what they desire beyond salary and promotions.
For example, an employee might want a morning off every week to take a college class or flex time to spend with his or her kids. Another might want to attend more conferences or trainings. “Don’t make assumptions and think that money is all people want,” says Vengel. “And don’t act like people are just lucky to have jobs right now. If you want them being creative and coming up with innovations, then you have to motivate them, and to do that, you have to find out what they want.”

Look At Your Own Satisfaction Level

Keeping employees motivated and engaged is tough enough sometimes, but it gets even more difficult when the manager is dissatisfied or burned out, according to Vengel.
“You want a manager to be authentic, to be present,” he says. “That’s hard to do if he or she is running on empty.” The question for managers becomes how to maintain a level of passion for themselves while motivating employees. Vengel suggests that managers meet with their directors to have conversations about goals, needs, and challenges to make sure that the managers are just as on track as their employees. ■

Top Tip: Hire Well

Part of effective management is bringing in new employees who fit with an existing team. This is always a challenge, but when done with effort, it can reduce tension and management issues in the future. Dan Cobb, vice president of enterprise solutions at staffing agency Yoh (www.yoh.com), notes that when screening potential employees, he always asks, “What is your reason for pursuing the position?”

This leads to discussion about whether the person likes technology, data, the company itself, the city, or certain projects in IT.
“There are no wrong answers to the question,” says Cobb, “but it will provide you with a window into what motivates the individual and maybe about how they interact with your team.” He advises that if a company has a strong group with predefined leaders, those employees should be allowed to meet the potential candidate. Cobb adds, “While not always 100%, this often provides me with a good insight into the team’s opinion of the candidate and the candidate’s ability to integrate with the team.”

“Make [employees] understand the underlying reasons for their activities and how they fit into the overall company goals.”

- Yoh’s Dan Cobb

FEATURE PACKAGE



Knowledge Is Power

Broad Technical Skills & Know-How Are Integral To Strengthening Your Management Skills

by Robyn Weisman

IF YOU DECIDED to rewrite the Superman saga to match up with today’s world, Clark Kent could be a data center manager. Server cabinets would be a reasonable alternative to the now nonexistent phone booth, and who else could juggle the daily chores of running facilities, making sure that Black-Berrys synced properly, and saving the world from bad guys, many of whom now use online methods to propagate evil?

Jill Eckhaus, president of data center managers association AFCOM (www.afcom.com), says that people in the data center resemble superheroes because of the way they have to keep up with everything. “There are ways to do that, but you just have to be highly adaptable to change to succeed in this field,” Eckhaus says.

Adaptability in the data center includes having the ability to continually update and expand your skill sets so that you can handle new technologies and complexities and respond to new threats in a proactive fashion.

But even Superman would struggle with keeping up with the latest in data protection technologies while handling his other tasks, even if he didn’t have to save the world on a regular basis.

So what can you do to upgrade your skill sets when you can’t outsource your work to the rest of the Justice League of America? Here are some tips to keep in mind.

Hone Your Leadership Skills

Assuming your staff and budget are limited, you must be able to communicate with your executive management to get everything you need to stay up-to-date.

“When you think about it, the data center manager is protecting a company’s data, the most important thing the company has. So it’s very important to talk to your executive management in a language they understand, so they know, ‘Look, this is what we need from a security standpoint, a compliance standpoint, a facilities standpoint,’” says Eckhaus.

Align IT & Business

Learning To Work With The Business Side Effectively Can Help Ensure Your Company’s Success

by Carmi Levy

AS BUSINESSES in all market sectors cope with greater levels of competition and reduced time-to-market, they’re leaning more heavily on IT to deliver applications and services that support greater speed and agility.

To meet these growing needs, IT can no longer afford to take a strictly technology-centric view. IT managers must understand and partner with their constituent lines of business. Business alignment is fast becoming an IT core competency, and companies that move quickly to refocus their strategies and tactics along those lines will ultimately be more competitive than those that do not.

Keep the following tips in mind when figuring out how to get IT and the business closer together.

Grow Your Knowledge Beyond IT

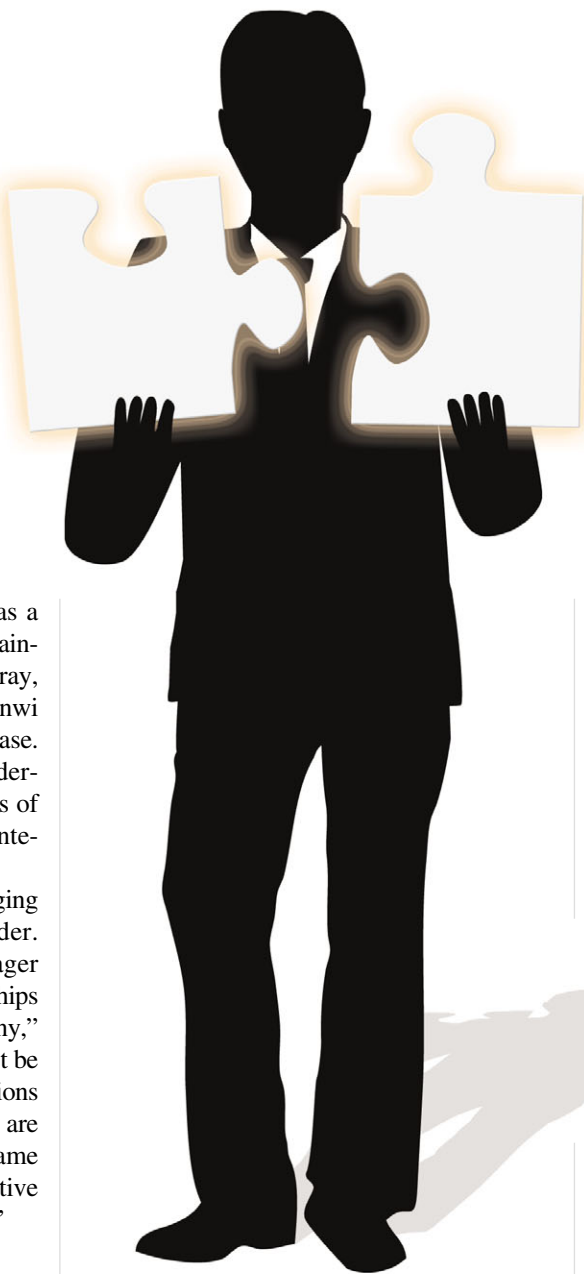
The days of looking at IT through a strictly technological lens are over. Increasingly, IT managers must innately understand the businesses they serve.

“The old standard for IT managers was a heavy reliance on the ability to install, maintain, and fix technology,” says Dave Murray, CEO of Convergence Networks (www.cnwi.net), who adds that this is no longer the case. “Today, there is more emphasis on understanding how technology serves the needs of each department and how technology integrates into the business model.”

Murray says this new emphasis is changing the basic nature of the technology leader. “What we see emerging is an IT manager who can forge relationships and partnerships with the business side of a typical company,” says Murray. “That same IT manager must be able to sit in on key policy-making decisions that can impact how goods and services are sold using technology. Likewise, that same manager is beginning to take a more active role in developing the business processes.”

Align Requirements To Business Objectives

Business leaders often don’t much care about gigabits per second or storage capacity



whether they’ll have enough space to store customer data, and whether they’ll be able to easily recover in the event of a drive failure.

When scoping any work, IT must take steps to ensure that the requirements list meets those business needs. For example, if a faster processor doesn’t drive a concrete end-user benefit, then perhaps it isn’t worth pursuing at this time.

“At the start of any IT project—at least, any successful IT project—both IT management and business management should sit down and establish requirements

that jive with set business goals,” says Yaron Sinai, CEO of Elementool (www.elementool.com). “Oftentimes IT will put time and effort into a project just to find that it isn’t quite what management had expected because requirements were not clearly defined or evaluated.”

Sinai recommends implementing ongoing reporting capabilities to allow

and redundancy. What they do care about is whether the network will be fast enough to support a given level of business,

Key Points

- Hone your leadership skills to communicate your needs to your executives.
- Find resources for continuing your learning, whether it's classes, information gained from talking to peers, or reading trade publications such as *Processor*.
- Get certifications in areas of interest so that you can benchmark your performance—and make yourself marketable for future IT employment.

Don't Stop Learning

Dave Admirand, an engineer at PTS Data Center Solutions (www.ptsdcs.com), which offers courses and customized educational programs in various aspects of data center management (www.data-center-education.com), says that learning never stops. “I participate in Webinars. I take classes online, at colleges, and at vendor facilities to keep up on the latest technologies,” says Admirand, who also recommends reading trade magazines such as *Processor* to keep up-to-date.

He also recommends studying the basics of physics, chemistry, and thermodynamics. “Nothing new uses a technology that is beyond these standards. Newton and company were pretty smart people,” Admirand says.

Also, make sure you figure out your learning style, says Thomas Burling, IT consultant and founder of IT infrastructure solutions provider TBN Solutions (www.tbnsolutions.com). “I know people who have passed certification tests by buying Microsoft’s manual or titles from the

Exam Cram [series of books],” Burling says. But Burling surmises that most people, himself included, seem to do better taking classes or using self-paced teaching modules.

Get Certifications


Earning certifications from vendors such as Microsoft and Cisco provides you as well as your employers with a benchmark of your knowledge, Burling says. For example, a Microsoft MCITP (Microsoft Certified IT Professional; formerly MCSE) certification shows that you have reached a certain standard of IT knowledge and skill. And don’t underestimate the difficulty in passing these certification tests; Burling, an MCITP himself, failed his first Microsoft certification test even though he says he studied for a month straight to prepare for it.

But advice Burling received at the start of his career from a recruiter resonated with him. “He said, ‘I have IT managers who have been IT managers at a company for 10 years, [during which] the company didn’t

upgrade their technologies. And now these people are obsolete because their skills are 10 years old,’” Burling says. “You have to develop yourself and push the powers that be to stay up-to-date, not only for your company’s benefit but to make you a marketable employee—although maybe don’t tell [your company] the latter part.”

Reach Out To Your Peers

To stay current with best practices and standards, Eckhaus recommends building relationships with peers and industry pros. Hearing peers’ experiences in improving, say, cooling and power setup in a data center is a more manageable way of going about the learning process than just researching multiple solutions to find the right one.

These relationships mean you often tackle a problem by picking up the phone and talking to somebody who has already dealt with a similar type of situation—and it helps to be able to vent frustrations to people who actually understand where you’re coming from. 

Top Tip: Leverage Your Partnerships With Your Vendors

Your vendors ideally should be able to provide you with a wealth of expertise and knowledge, says Moosa Matariyeh, enterprise storage specialist with CDW (www.cdw.com). “For a long time, we were a price-driven environment, whereas now we need to look at total value rather than just the dollar sign,” Matariyeh says. “You don’t pick a doctor because [he or she] has the lowest price for a checkup. You find the most knowledgeable and best one you can get.”

Matariyeh says that when you develop a partnership with a reseller, that reseller can offer roundtables on new technologies and industry trends. “You’re one customer, but they deal with dozens [or more] clients that have similar environments and similar concerns,” says Matariyeh. “You may work with one reseller for networking or one for server environment, for example, and I would rely on each of them to give me a CliffsNotes version of everything they are learning from everybody else they work with, including the vendors.”

business leaders to monitor progress—keyed specifically to business objectives—on IT initiatives.

Refocus IT's Attention On The Customer

Traditional IT often forces unnatural disconnects between technology staff and end users. For example, IT staff may not always have the opportunity to meet with business users or customers. Simply spending time together can give IT greater insight into the impact of their work and how they can change their offerings to support more successful business outcomes.

“Give your IT personnel a cause,” says Sasa Djolic, a software development consultant with SDA Software Associates. “Show them how the business is impacted by IT errors or deficiencies.”

Consider Implementing ITIL

The Information Technology Infrastructure Library is a best practices framework that provides structure to a

Key Points

- By partnering with the business and aligning planning and implementation closely with business objectives, IT can drive organizational competitiveness.
- IT professionals—in the data center and elsewhere—need to expand their knowledge beyond technology to become business-savvy, as well.
- Framework methodologies such as ITIL can help focus efforts to align IT and business needs.

wide range of operational functions, such as incident management, problem management, and change management. It has become a broadly adopted standard for IT organizations looking to improve the reliability and predictability of the services they provide to their lines of business.

Grant Ho, director of end-user computing at Novell (www.novell.com), says IT shops

looking to move into ITIL don’t necessarily have to do so alone because there’s lots of vendor support available.


“What makes these solutions special is that they offer a centralized and automated approach to IT service delivery,” says Ho. “As a result, organizations can build repeatable and streamlined IT processes. Repeatable, streamlined processes mean reduced cost, complexity, and risk for the business.”

Recognize That The Business Is Not Monolithic

IT leaders and staff often perceive the business as a single entity when, in fact, it is quite diverse. Brian Barnier, an advisor with ValueBridge Advisors, says recognizing diversity is key.

“Realize that ‘the business’ is more than one blob,” he says. “Business line leaders, CFOs, risk officers, corporate leaders, and others all have distinct business objectives. Understanding what these are and how leaders are aligning with each other is crucial to the data center manager, especially when IT implications vary with the varying objectives of each business leader.”

Whatever roadmap IT chooses to follow, it’s becoming increasingly clear that the concept of a standalone IT department is virtually obsolete. In its place, IT professionals in virtually any organization have ample opportunity to partner with their business area clients and more directly drive the company’s success.

“Constantly focus on where the business is selling and delivering to customers,” says Barnier. “Then proactively suggest ways IT capabilities can help the business better grow profitable revenue.” 

GE Ups Wind Energy Ante

Wind energy will soon get a boost in Europe by way of a major expansion by General Electric. Over the next 10 years, the company plans to spend \$450 million in Germany, Norway, Sweden, and the UK to boost manufacturing, engineering, and facilities. On the engineering side, the company will be focusing on its 4MW offshore wind turbine, which does not have a gearbox and, GE claims, is more reliable and requires less maintenance than current technology. This emphasis is being made because of a European Wind Energy Association prediction that the offshore wind industry will expand by 70% this year.

ID Theft Worries Not A Priority For Most

Although ID theft victimizes some 10 million Americans every year, U.S. officials don’t appear to be worried about the problem. A Justice Department report notes the dangers of ID theft but found that efforts to combat the problem have lagged since the president formed an ID theft task force in 2007. The report also calls out the FBI, noting that ID theft is “not a top FBI priority.” Inspector General Glenn Fine says the Justice Department lacks a coordinated plan, related initiatives have lost ground, and some of the president’s task force recommendations have not been addressed.

RIM Profit Up, But Not As Much As Expected

Although Research In Motion posted a fourth-quarter profit of just more than \$710 million, analysts were disappointed with what the market saw as a failure to meet revenue expectations. RIM shares dropped 5% after the report, even though net income had risen some 37% over a year ago. During the quarter, RIM says it shipped more than 10 million BlackBerry devices and added almost 5 million users, maintaining its healthy lead over competitors in the smartphone market. RIM says it expects to add about 5 million more BlackBerry users during the current quarter.

Microsoft Denied Appeal Against i4i

Microsoft lost another battle in its years-long patent infringement war with Canadian software maker i4i when a federal appeals court rejected the software giant’s request for the case to be reheard. The smaller company originally filed suit against Microsoft for patent infringement back in 2007, claiming that parts of the Microsoft Office 2007 suite contained custom XML script patented by i4i. Microsoft was ordered to remove the XML capabilities from its product and to cease selling unpatched software; the company was also ordered to pay fines totaling \$290 million. Though it has now lost two appeals, Microsoft still has the option of approaching the Supreme Court, though it has not yet said whether it plans to do so. For its part, i4i is “delighted” by the court’s ruling.

Optimism Over Future Remains Strong

Although there was a slight dip in IT industry confidence during the last quarter, there are signs of continued strength in the tech sector, according to figures from CompTIA. The group’s latest IT Industry Business Confidence Index found that 53% of companies expect to shift additional resources toward revenue-generating initiatives during the next six months. These initiatives include items such as research and development, new products, and new markets. In the next six months, 30% of respondents say they’ll increase staffing, while 18% expect to reduce staff levels.



Top Tip: Become Project-Savvy

A major source of ongoing disagreement between IT and business stakeholders often revolves around unmet expectations. Effective project management can give IT a proper context within which leaders and staff can better set—and meet—expectations.

Johanna Rothman, author of “Manage It! Your Guide to Modern, Pragmatic Project Management,” advises IT to develop and publish a project portfolio. This ensures that the business areas know when their projects will be worked on and what will ultimately be delivered. Rothman says project charters are a critical step, as well.

“Always charter a project and run the project vision by your business stakeholders,” she says. “If they disagree with the vision, stop right there. Get agreement, and then it’s safe to start the project. Otherwise, you won’t be able to end the project.”

Solid-State Drives

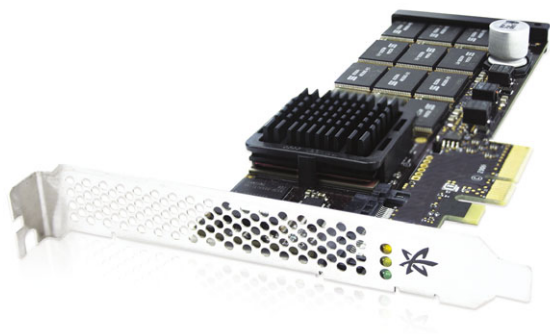
Product	BitMICRO Networks E-Disk Altima Series	Crucial RealSSD C300 2.5-inch SATA 6Gb/s Drive
		
Description	<p>BitMICRO Networks' E-Disk Altima series is designed to offer the most advanced solid-state drive solution. Powered by BitMICRO's proprietary EDSA (Enhanced Datamover and Storage Accelerator) flash I/O controller and LUNETTA (Logical Unifier of Extensive Transfer Arrays) memory flash interface ASICs, E-Disk Altima SSDs utilize high-density flash memory chips to create massive storage capacities in standard disk drive form factors. Flash memory-based E-Disk Altima SSDs boost system performance by eliminating seek time and latency for faster I/O and sustained transfer rates. BitMICRO's E-Disk Altima SSDs are available in 2.5-inch PATA, 2.5-inch SATA, 2.5-inch SCSI Narrow, 3.5-inch Fibre Channel, and 3.5-inch Ultra320 SCSI interfaces. E-Disk Altima SSDs can support demanding enterprise applications with their patented FlashBus technology.</p> <ul style="list-style-type: none">• Available in a variety of capacities from a few gigabytes up to a terabyte• Use BitMICRO-built SD controllers and accelerators to maximize drive potential• Drives can be optionally equipped with PowerGuard, a power management system that can perform specific drive functions in the event of a power failure• Custom configurations available for customers who require highly specific SSDs• Drives are rugged and can withstand demanding conditions <p>Best For: Aerospace design, algorithmic trading, data warehousing, nuclear fission models, video on demand, and real-time data/feed processing.</p>	<p>With high-speed MLC NAND, advanced controller technology, optimized NAND management, and the new SATA 6Gbps interface, the Crucial RealSSD C300 is designed to deliver the latest innovations in solid-state storage to servers and workstations. The RealSSD C300 leverages Crucial's expertise in NAND process technology to optimize the performance and reliability of its solid-state storage devices.</p> <ul style="list-style-type: none">• 4,000 random read I/Ops, up to 60,000• SATA 6Gbps interface with Native Command Queuing to improve throughput and eliminate interface bottleneck• Fully implemented ATA-8 with Trim to improve data transfer speeds• Self-Monitoring Analysis and Reporting Technology command support <p>Best For: Storage needs where throughput performance, reliability, and quality are paramount.</p> <p>Price: \$499.99 (128GB) or \$799.99 (256GB)</p>
Contact	(510) 743-3475 www.bitmicro.com	(800) 336-8915 www.crucial.com

Product	Intel X25-E Extreme SATA Solid-State Drive	Intel X25-M Mainstream SATA Solid-State Drive
		
Description	<p>The Intel X25-E Extreme SATA Solid-State Drive, based on SLC (single-level cell) NAND memory, is designed for maximum I/Ops performance to accelerate data center responsiveness. Typical enterprise uses include replacing 15,000rpm HDDs in Tier 0 and Tier 1 storage applications in an effort to dramatically accelerate performance, lower power consumption, and reduce total cost of ownership. Intel's X25-E Extreme SATA SSD technology is designed to help change the economics of enterprise data centers by increasing server, workstation, and storage system performance by 100x compared to hard drives as measured in I/Ops. Intel's X25-E Extreme can also add a level of predictability through the use of SMART technology to help predetermine when to swap drives.</p> <ul style="list-style-type: none">• 14,000 read I/Ops per watt• Designed to lower the total cost of ownership for enterprise server and storage applications by more than five times compared to traditional spinning hard disk drives• Storage model designed to lower energy costs by up to 5x• Key architectural designs such as 10-channel NAND architecture with Native Command Queuing, proprietary controller, and firmware efficient in advanced wear-leveling and low write amplification <p>Best For: Enhancing enterprise data center responsiveness.</p>	<p>The Intel X25-M Mainstream SATA Solid-State Drive is a versatile SSD designed to meet corporate client requirements for notebooks. Additionally, the X25-M drives provide the performance and capacity to meet the needs of SME and corporate data center requirements for running read-intensive applications.</p> <p>Featuring an SSD on 34nm NAND flash memory manufacturing process, the X25-M is designed to provide responsive, lightweight, low-power, and fast-booting benefits of SSDs at a more affordable price. Delivering up to 6,600 4KB write I/Ops and up to 35,000 read I/Ops, the X25-M is designed to outpace other SSDs while significantly outperforming HDDs, providing faster system and application responsiveness.</p> <ul style="list-style-type: none">• Up to 6,600 4KB write I/Ops and 35,000 4KB read I/Ops• Designed to offer a 56% improvement in system responsiveness compared to a 5,400rpm HDD• Advanced algorithms and SSD utilities from Intel, including the Intel SSD Toolbox, which helps SSDs retain their out-of-box performance, and the Intel SSD Optimizer that supports the Trim command in Microsoft's Windows 7 operating system <p>Best For: Read-intensive applications for SMEs and corporate data centers.</p>
Contact	(408) 765-8080 www.intel.com	(408) 765-8080 www.intel.com

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Compiled by Seth Colaner

Fusion-io ioDrive



Although it's technically not an SSD, the ioDrive from Fusion-io is a solid-state storage technology designed to provide low latency, better application performance, increased bandwidth, and a simpler IT infrastructure. It also uses block storage-type management. The ioDrive has a write bandwidth of between 490 and 670Mbps and read bandwidth of between 700 and 750Mbps, depending on the capacity, and it also features up to 93,199 4KB write I/Ops and 119,790 4KB read I/Ops.

- Low-profile PCI Express x4 form factor
- Weighs less than 2 ounces
- Available in capacities of 80GB, 160GB, and 320GB
- Supports Microsoft Windows 64-bit XP, Vista, Server 2003, and Server 2008 as well as RHEL 4 and 5, SLES 10 and 11, and OEL v4 and 5

Best For: Enterprises and vertical markets such as Web 2.0 and social media implementations; banking and finance; and government, academic, or medical research.

(801) 424-5500
www.fusionio.com

Fusion-io ioDrive Duo



The Fusion-io ioDrive Duo offers the same technology and functionality as the ioDrive but with twice the performance and capacity. It has read and write bandwidth up to 1.5Gbps and 1.4Gbps, respectively, and has up to 129,699 4KB write I/Ops and 185,022 4KB read I/Ops.

- Full-height, half-length PCI Express 2.0 x4 or PCI Express x8 form factor
- Weighs less than 10 ounces
- Capacities of 320GB and 640GB
- Supports Microsoft Windows 64-bit XP, Vista, Server 2003, and Server 2008 as well as RHEL 4 and 5, SLES 10 and 11, and OEL v4 and 5

Best For: Enterprises and vertical markets such as Web 2.0 and social media implementations; banking and finance; and government, academic, or medical research.

(801) 424-5500
www.fusionio.com

Samsung 2.5-Inch Enterprise SSDs



Samsung's 2.5-Inch Enterprise SSDs offer 3Gbps SATA storage that enables highly reliable 24/7 performance in data centers and other server environments. Designed to provide a significantly higher degree of reliability than 15K SAS and Fibre Channel HDDs with dramatically reduced power requirements, these enterprise SSDs are performance-optimized SLC NAND-based storage devices. They're also designed to offer the highest performance in real-world enterprise workloads compared to traditional enterprise-class hard drives, and they consume 20% less power than a typical enterprise HDD. Average I/Ops speeds are 30,000/7,000 read/write I/Ops compared to 570 I/Ops for a 15,000rpm SAS HDD, and I/Ops per watt is about 22,000/17,000 read/write vs. 70 for a comparable HDD.

- Improved performance
- Higher reliability
- Better energy efficiency
- Improved total cost of ownership

Best For: A range of I/O applications such as video on demand, Web serving, virtualization, and OLTP.

(408) 544-4000
www.samsung.com

Solid Access Universal Solid State Disk Series



Solid Access' series of USSD (Universal Solid State Disk) drives are designed to reduce bottlenecks caused by high read/write traffic. A low-capacity USSD 200 appliance is designed to provide instant gains for OLTP applications suffering degradation because of high-volume traffic in tempdb, log files, indexes, and frequently accessed tables as well as entire high-performance databases.

The three available drives in the USSD series are the USSD 200 for I/O-dense file traffic (16 to 128GB, 2U rackmount), USSD 310 for high-capacity density requirements (up to 256GB, 1U), and USSD 320 for interface expansion for high-volume data ingest requirements (up to 256GB, 2U). The units can also integrate with SAN switches to create larger storage volumes.

- Fast storage
- Instant application acceleration
- Requires no training, tuning, or periodic maintenance

Best For: OLTP applications with heavy traffic and high-performance databases.

Price: Entry-level pricing less than \$10,000

(603) 760-2831
www.solidaccess.com

Yahoo! Publisher Network Self-Service Beta Program To Close

Launched in beta five years ago, the Yahoo! Publisher Network will shut down as of April 30. The Yahoo! Publisher Network enabled small Web publishers to generate revenue by placing content-related ads on their sites, not unlike Google's AdWords. Yahoo! contacted program participants with the news in an email March 31. This act does not affect Yahoo!'s large direct publishers and partners, nor does it affect advertisers that use Content Match; Content Match ads displayed on small sites will still appear on larger publisher and Yahoo! sites.

Federal Cloud Security Initiative Launched

The federal government may soon have unified cloud security standards with the advent of FedRAMP, or the Federal Risk and Authorization Management Program. The development of FedRAMP, spearheaded by Federal CIO Vivek Kundra and the Cloud Computing Advisory Council, is also designed to aid in hastening the adoption of cloud computing technology by government agencies by removing the burden of developing their own cloud security and risk management protocols. Further, unified security requirements will increase interoperability between government groups. Agencies would not be required to participate in the program, as many departments have specific IT needs.



Indian Government Reportedly Victim Of Cyber Attack

According to a report issued by researchers at the University of Toronto, the Shadow Network spy operation has targeted the Indian government and the United Nations, including the office of the Dalai Lama. The Chengdu, China,-based espionage group stole classified security documents from the Indian Defense Ministry, Tibet, Bangladesh, and Myanmar as well as agencies of the United Nations. The same researchers discovered an operation dubbed Ghost Net that attacked government and nongovernment organizations last year; however, the two spy groups are not linked. The specific computers infiltrating the Indian government could not be identified.

Privacy On Social Networks Increases In Priority

A new study from Webroot that surveyed more than 1,100 Facebook, LinkedIn, MySpace, and Twitter users found that 37% more respondents consider social networking privacy an important issue compared to last year. Despite the rising awareness, more than 28% of users fail to change their privacy settings from the defaults. In other findings, the report notes that 61% of social network users list their birthdays, 52% include their hometowns, 17% display cell phone numbers, 77% don't limit who can view their photos, and 81% allow anyone to see their recent activity and geo-location-based updates. About 73% of users knew about Facebook's December privacy changes, but 42% say they haven't changed their settings following the change. It's not all bad news, though, as 27% of social network users currently restrict who can find their profile through a public search engine, 67% use a different password for each social network site, and 47% are aware of who can view their profile, which represents an overall increase compared to last year when those numbers were 20%, 64%, and 41%, respectively.

Cloud Storage 2.0

How The Next-Generation Cloud Technology Will Impact Your Enterprise

by Chris A. MacKinnon

. . .

IT CAN EASILY BE SAID that data is growing faster than Moore's Law. Existing storage systems can turn into performance issues, management complexities, and expensive ventures. But the next-generation caped crusader, known as Cloud Storage 2.0,

Key Points

- Cloud Storage 2.0 will run storage in parallel, which will ease exploding data problems and allow enterprises to perform and grow without bottlenecks.
- Cloud Storage 2.0 will provide processing relief with specialized application services and knock out storage silos with a single multipurpose platform.
- Cloud Storage 2.0 will allow administrators to tune the cloud for the desired profile. For example, if performance is an issue, add a processing node; if capacity is the issue, add hard drives.

promises to ease exploding data problems by running storage in parallel. This way, enterprises can perform and grow without bottlenecks. Cloud Storage 2.0 also promises a break on processing with specialized application services and promises to wipe out storage silos with a single multipurpose platform.

2.0 Defined

David Slik, technology architect at Bycast (www.bycast.com), defines Cloud Storage 2.0 as the federation of storage clouds that provides scalability, performance, and capabilities that transcend what can be provided by any one single cloud or cloud instance. In a federated cloud, Slik says, data is automatically placed where it should be, based on demand, policies, constraints, and governance.

Jack Norris, vice president of marketing and business development with ParaScale (www.parascale.com), says Cloud Storage 2.0 will address the enterprise's exploding data problems. Norris explains, "Data is growing quickly, but certain machine-generated content is growing at a much faster rate. Log files, RFID scan data, video surveillance, [and] genomics are examples of data that need to be stored. Cloud Storage 2.0 is a more efficient way to process data." He adds, "Cloud storage enables more intelligence in the storage tier—increased telemetry about storage usage, increased intelligence through applications running directly on the storage nodes (data services, search, etc.), and the ability to perform analysis on the storage."

According to Carl Meadows, senior product manager of cloud services at The Planet (www.theplanet.com), there's a lot of confusion in the marketplace as to what cloud is and is not. Meadows says, "Cloud is the hot new moniker, but it's often attached to technologies that aren't truly cloud. We clearly haven't reached broad market penetration of Cloud Storage 1.0. So, we should expect that 2.0 will happen years from when the first true phase of cloud is fully refined."

A Parallel Universe

Regarding parallelism, Meadows says the trend in cloud storage is based on building systems that create multiple copies of customer data and store it on inexpensive commodity hardware. He notes, "This allows vendors to deliver scalable and redundant storage without investing in extremely expensive, enterprise-class large-scale storage platforms, which would break their cost model. Cloud platforms generate more than enough performance to not be the bottleneck if the Internet is between the user and the storage platform."

Norris says as organizations increasingly cope with "big data," the storage tier needs to manage and process large data sets more efficiently and intelligently. He explains, "Instead of a gateway that sits in front of a cloud to provide access via NFS [network file system], for example, Cloud Storage 2.0 enables access to take place in parallel. With parallel access, adding storage nodes for capacity also adds performance. The next generation of storage clouds therefore allows administrators to tune the cloud for the desired profile. If administrators need more performance, add a processing node." Norris says if more capacity is needed but performance is acceptable, just add hard drives. "Each can be added independently or scale simultaneously," he says.

Most of today's cloud solutions scale in performance and capacity through the

Cloud Storage 2.0 also includes robust multitenancy capabilities. Norris explains, "Service providers can roll out cloud storage and provide benefits to many small and midsize enterprises providing each with their own policy-based customization of access, protection, and management settings." Norris says Cloud Storage 2.0 represents a paradigm shift as processing is brought to the data and includes specialized application services to ease processing.

Federation & Standards

Standards are key to enabling the next generation of cloud storage, according to Slik. He notes, "Standards bring predictability and interoperability and allow providers and vendors to spend their time innovating their unique capabilities, rather than the basics. Initiatives such as the CDMI (Cloud Data Management Interface) from SNIA (Storage Networking Industry Association) are well underway and provide the underlying mechanisms that make federation possible."

Slik says by federating clouds together, different clouds can provide specialized functionality, such as clouds specialized for retention compliance, content distribution, data preservation, and high-performance access and transformation.

Meadows says Cloud Storage 2.0 will offer small and midsize enterprises access to scalable storage without the expense of a large-scale dedicated platform. He says as it evolves, providers will

“The next level of cloud storage starts with an increase in awareness, and we’re not close to Cloud Storage 2.0 without that.”

-The Planet's Carl Meadows

deployment of additional computational and storage resources and, in Slik's opinion, already run in parallel. But he says this degree of parallelism is limited to a single cloud and to the limits of that cloud. "By federating clouds together, clouds can scale far beyond the scale they currently do, much like the Internet was much more than the sum of the individual networks it connected together," Slik says.

What's In It For SMEs?

Slik says federated clouds mean being able to mix and match the best of public and private clouds. He elaborates, "Local compute and storage resources can be used in combination with public cloud services over the Internet, and federation provides data mobility and the formalization of trust that further reduces the costs of using cloud storage. When cloud storage is as easy as using a USB device, cloud storage will become just as ubiquitous." Slik says access to the cloud via standard file system protocols, including CIFS [common Internet and file system] and NFS, are also key for enterprise adoption, as a vast majority of applications in use today are file-based and will not quickly or easily be rewritten to take advantage of native cloud storage APIs.

push the boundaries of cloud storage, and the cloud will become cheaper and far more scalable. However, Meadows says, "The next level of cloud storage starts with an increase in awareness, and we're not close to Cloud Storage 2.0 without that. The cloud as we know it today is not for high-performance applications, since it inherently depends on the Internet to read and transmit data." He says as the backbone of the Internet expands and last-mile connectivity becomes faster, then the next generation of cloud storage will evolve to address these needs.

Federation Benefits

When comparing uses of clouds, there are different balances of compute, storage, and I/O required. According to David Slik, technology architect at Bycast (www.bycast.com), some clouds will specialize in managing vast repositories, with a low MBps to PB ratio, where others will manage data that is intensely mined and transformed and require a high GBps to TB ratio. These different types of storage clouds, which become silos themselves, will be unified through federation.

THREE QUESTIONS

Real-Time Storage Control

NTP Software Helps SMEs Watch & Manage Shared User Data

by Daniel P. Dern

THE DATA COMPANIES STORE is a mix of structured data, such as relational databases and spreadsheets, and unstructured data, such as audio and video files and text created by individual users or by applications. Soon enough, all that file data tends to proliferate. Network storage arrays such as SAN and NAS let IT provide centralized, more cost-effective storage capacity, but with central shared storage solutions come additional cost, accessibility, security, and other control challenges. NTP Software (www.ntpsoftware.com) provides software tools to give companies real-time control and management, including storage analytics and financial modeling, over unstructured data in shared network storage. Founded in 1994, NTP Software’s customers include more than 60% of Fortune 1000 companies and more than 70% of Global 100 companies. Bruce Backa is the founder and CEO of NTP.

■ What are the biggest IT-related issues facing today’s small to midsize enterprise?

“In terms of storage, the biggest issue for small to midsize enterprises is the same as for all enterprises: the continuing explosive demand for more resources. The objects are getting bigger over time. And nobody ever deletes anything, so the demand for capacity and resources keeps growing,” Backa says. “[This] leads to the secondary challenge which everybody is dealing with: Since the growth has been relatively unmanaged, people have trouble finding things,” Backa explains. “So, for example, financial companies are getting fined millions of dollars because they can’t find things in the allotted timeframe, like producing data related to an investigation, not because these companies have deleted or lost the data in question, but simply because they could not find and produce it in time.”

■ What should *Processor* readers know about your company’s products?

“We make packaged software that helps enterprise customers and other companies manage shared storage on their networks,” says Backa. “Most of our customers have a hundred or more users and at least 4 to 5TB of storage.” He continues, “Our software enables organizations to create policies that interact with the storage in real time, for managing and controlling it.” NTP Software’s flagship product, NTP Software QFS, provides enterprise-wide, policy-based, real-time control and

reports, like who are the biggest users and when will you run out of space.” He continues, “We have similar products for security: NTP Software File Auditor, which provides real-time management and alerts about who’s using your data and what they’re doing with it, and NTP Software File Security Reporter, which analyzes the data and determines things like whether activity matches your policy.” ■ What makes your company unique? “We are the ‘old guys’ in this industry,” says Backa. “We created this market segment for real-time control and have been able to file core patents. There are some



protection of shared network storage, including automatic policy-based storage quotas, file blocking, content filtering, and automatic file removal. “NTP Software QFS allows you to create policies that govern the use of your storage in real time, like what a user can put where, how big a file can be, and how long it can live,” says Backa. “Its companion product is NTP Software File Data Reporter, which analyzes usage and creates

reporting and analysis companies, but they are narrowly focused. We can work with all platforms and provide a consolidated answer.” Also, notes Backa, “We are self-funded, so our customers can count on us to be here in the future. And we are very customer-driven. If a customer has a problem that’s related to what we do, we’d love to hear about it, [and] we will see if we can address it.” ■

FEATURED COMPANY

Visionaries In Network Security

Palo Alto Networks & Its Next-Generation Firewalls

by Tessa Warner Breneman

PALO ALTO NETWORKS has reinvented the firewall. Rather than use port numbers, IP addresses, and packets to govern traffic, which won’t prevent the majority of applications from getting in and out, Palo Alto Networks’ firewalls rely on the identity of the application, the users, and the content. This revolutionary concept has garnered attention from Gartner, which named Palo Alto Networks a visionary company in its 2010 Magic Quadrant for the network firewall industry. “It’s great to have the recognition from a third party like Gartner, who sees us as out

in front in terms of vision,” says Chris King, director of product marketing at Palo Alto. “We’re disrupting a fairly large market.”

The Palo Alto Networks Advantage

Palo Alto Networks’ firewalls rely on three identification technologies—App-ID, User-ID, and Content-ID—to create flexible, relevant security policies for enterprises. These three technologies complement the SP3 (Single-Pass Parallel Processing) architecture, which provides a combination of high-throughput and low-latency network security. **App-ID.** Through App-ID technology, these next-generation firewalls identify and classify traffic using application protocol detection and decryption, application protocol decoding, application signatures, and heuristic analysis. This tightens security because the port and protocol are irrelevant, and the access is determined solely on accurately identified application traffic. **User-ID.** To help create a more flexible security policy, Palo Alto Networks’ firewalls implement User-ID technology. By integrating with enterprise directory services (including Active Directory, LDAP, and eDirectory), User-ID is able to allow and block specific Web pages and applications by user, rather than having to implement blanket policies for all employees and departments. For example, you can implement a policy that lets your marketing team use social networking sites, such as

Facebook, but block other employees from accessing these sites. **Content-ID.** Content-ID is designed to protect your organization from a variety of issues, including malware threats, Web use unrelated to work, and unauthorized data transfers. The stream-based virus scanning capabilities guard against malware, such as Trojans, spyware, and viruses, while also implementing intrusion protection mechanisms. URL filtering enables you to control your employees’ Web surfing while still keeping flexible use policies. For example, you can create a policy that allows your marketing department to have access to Facebook messaging and chat, but not Facebook’s game applications. Content-ID can also prevent unauthorized data transfers to help keep your sensitive data safe.

One Size Fits All

Although the majority of Palo Alto Networks’ clients are enterprise organizations, there are many aspects of its firewalls that appeal to small and midsize businesses. “The simplicity of the approach that we have is good for SMBs,” King says. “You put our firewall on an SMB network, and very quickly they are going to get a picture of what’s going on in their network.” In addition to network visibility, these firewalls make it easy to create flexible and comprehensive rules using just a few clicks inside the interface. Because SMBs can’t

often hire firewall specialists to configure legacy firewalls, having a streamlined interface with visualization tools and common security terminology makes these firewalls easy for IT personnel to use. “It’s very easy to write a lot of the rules,” King says. “It’s great for these small organizations that might be employing IT generalists to develop rules that are meaningful and effective. When you look at a traditional firewall rule base compared to what we do with a next-generation firewall, the rules are a lot simpler, and there are a lot fewer of them. So that is usually something that is pretty advantageous for small organizations.”

Rising To The Challenge

The Gartner 2010 Magic Quadrant report lists “cautions” for each organization it named, including Palo Alto Networks. From the time Gartner gathered its information in 2008 to the present, Palo Alto Networks has made strides in addressing many of those concerns. According to King, international sales have sharply increased, which has overcome its previous lack of geographic support. Currently, about 40% of its client base is international. Additionally, King says Palo Alto Networks is on pace to gain many of the third-party certifications it lacked in 2008, including Common Criteria for Information Technology Security Evaluation and FIPS. Evaluation Assurance Level 2 and 4 are also nearing completion. As a visionary in the network security industry, Palo Alto Networks provides next-gen firewalls that keep your organization and its employees in compliance with security policies, while being easy for your IT staff to use. The result is a flexible and comprehensive security solution for your company.

PALO ALTO NETWORKS

(866) 320-4788
www.paloaltonetworks.com

- Palo Alto Networks specializes in next-generation firewalls that utilize App-ID, User-ID, and Content-ID technologies for flexible, relevant security.
- The company was recently honored in Gartner’s 2010 Magic Quadrant report as a visionary company.

The logo for Palo Alto Networks features a stylized blue and green graphic to the left of the text "paloalto NETWORKS" in a bold, sans-serif font. Below this, the tagline "the network security company™" is written in a smaller, lowercase font.

FEATURED COMPANY

Protection You Can Rely On

Security Vendor Comodo Aims To Create A Trusting Online Environment

by Robyn Weisman

ALTHOUGH JERSEY CITY, N.J.,-based security solutions provider Comodo was founded in 1998, on some level, it started many years earlier. Founder and CEO Melih Abdulhayoglu built his first electronic circuit when he was nine years old and soon after had wired his bedroom so that if anyone had entered it, he would know. “People ask me if I had an insecure childhood,” Abdulhayoglu says. “Not at all! I had a great childhood. I don’t know why I’ve always been intrigued by security and trust-related things.”

Abdulhayoglu founded Comodo (www.comodo.com) after noticing an increased reliance on the Internet. He saw people’s dependence on the Internet pre-Y2K, and he knew this dependency was only going to accelerate until people viewed it as a necessity, much like electricity and water. But malware was already threatening networks, and Abdulhayoglu wanted to provide a safe environment both for individuals and organizations. “Someone had to do it, and so I took it upon myself to start delivering that,” Abdulhayoglu says.

The privately held company employs fewer than 700 people, 400 of which are R&D guys, says Abdulhayoglu. “It takes a huge amount of R&D development to create trust online,” he says.

It’s About Trust

Comodo’s mission is to create trust online through several means: authenticating individuals, organizations, Web site content, and content in transit; making information secure, whether it is credit card information stored on an ecommerce Web site or confidential email being sent from a doctor to his patient; and upgrading and maintaining secure PCs and servers that are the lifeblood of any network, public or private. In other words, a trusted Internet, Abdulhayoglu says.

“The goal is the same, but [our mission] has evolved because of new threats,”

Abdulhayoglu says. “I would never compare myself to Henry Ford, but when Ford decided to build cars, he wanted to make transportation possible for people to go from A to B. He didn’t say he was going to just build a carburetor or just tires. He had to build everything so that he could provide a vehicle to take people from A to B,” he says.

Abdulhayoglu views the concept of trust as being analogous to the car. “When we started, we had the single goal of building

tool, and that is what we have built—a preventative tool that will not allow any unknown applications to execute,” he says.

In fact, Comodo is so confident that its free PC antivirus solution, Comodo Internet Security, will keep your PC clean that the product is underwritten by the Chubb Group of Insurance Companies (www.chubb.com). “If, for whatever reason, you get infected, it is underwritten by insurance. If we can’t fix your PC, [insurance] will pay out,” says Abdulhayoglu. “It’s the first enterprise product where, to my knowledge, the company puts its money where its mouth is.”

Validating The Internet

Most users see the padlock on their Web browser and assume

that the site is secure enough to enter their credit card or other confidential information. But Abdulhayoglu points out that no standards exist in the marketplace for this padlock, and too many fly-by-night companies are issuing certificates to enable a padlock without offering any validation to go with it. “When we need more security, they are actually reducing that security and trust for end users,” Abdulhayoglu says.

For this reason, Abdulhayoglu believes that to establish trust with your customers,

trust online, but that meant we had to do a lot of [development] and be [on top of] new threats,” Abdulhayoglu says.

Preventive, Not Reactive

In Abdulhayoglu’s mind, antivirus solutions are misleading. “It’s a reactive technology that is being marketed as a technology that prevents malware when in truth it’s like a detergent. It can clean the trousers once they’re dirty, but they will never keep clean pants clean,”

“Antivirus products will let anything in unless it’s in the database, which means if [a virus] hasn’t been added to the database, it won’t raise alarms, and you’ll be infected.”

-Comodo’s Melih Abdulhayoglu

Abdulhayoglu says. “Antivirus products will let anything in unless it’s in the database, which means if [a virus] hasn’t been added to the database, it won’t raise alarms, and you’ll be infected. They’re cleaning products, not protection products.”

Abdulhayoglu says Comodo’s products take a different approach. “To keep a clean computer clean, you need a preventative

you need to be able to show that your Web sites have been validated by a certification authority. Comodo not only offers certificate management solutions, it is a registered SSL Certificate Authority that puts Web sites through a strict validation process before it will associate its certificates with the site. “It’s a painful process to go through to obtain our certificates,

implies protection for the simple reason that in validating these companies, [Comodo] has found them to be legitimate and have better processes to protect end users.”

Keeping You Compliant

Comodo understands that PCI compliance is a corollary concern to overall trust, especially now that companies store customer credit card data on their servers. Its HackerGuardian solution not only performs vulnerability scanning, it also determines whether your site is PCI-compliant. Comodo is an authorized PCI scanning vendor, which is another facet of creating overall online trust.

“Basically, [HackerGuardian] attacks your Web site through about 15,000 vulnerabilities. If you [pass], we provide you certification that you are PCI-compliant, and if not, we send you a report explaining where you failed,” says Abdulhayoglu.

Recently, Comodo updated HackerGuardian with an overview dashboard, setup wizard, and a simplified layout, among other improvements. Its next update will include access to PCI experts who can guide you through the PCI compliance process. “We’re trying to make this process as simple as possible [for enterprises] to become PCI-compliant and furthering trust overall,” Abdulhayoglu says.

Featured Comodo Products

Product	Description
Comodo Internet Security	Free PC antivirus software. Comodo is in the process of developing centralized management tools so that data center managers can leverage its features on multiple networked PCs.
Endpoint Security Manager	Provides centralized and remote security management of networked PCs. Comes with antivirus, firewall, and disk encryption protection.
EV (Extended Validation) SSL Certificates	2,048-bit SSL certificate that comes with \$250,000 warranty.
HackerGuardian	Cloud-based solution that scans for security vulnerabilities and threats to PCI compliance. Recently enhanced with an overview dashboard, simplified scan scheduling, and improved device management.
HackerProof Solution	Provides daily vulnerability scanning, PCI compliance validation, a trust mark that tells visitors your Web site is safe, and related features.
Two-Factor Authentication	Provides access control to secured networks through SSL certificates rather than physical tokens. Flexible options allow users to combine whichever two factors they prefer, including one-time passwords, secure cookie technology, client-side digital certificates, and challenge questions.

Stop Illegal Software Downloads

Education & Enforced Policies Are Important For Avoiding Fines Or Litigation

by Bridget Mintz Testa

EMPLOYEES CAN CREATE tremendous risk for an enterprise when they download illegal content or software. Risks range from infecting computers with malware and spilling confidential information to the world to fines to damaged reputations to very expensive litigation. Most enterprises don't even know their employees are engaged in these illicit

Key Points

- Downloading illegal content in the enterprise is growing at a rapid rate.
- Even if enterprises don't know about illegal content or software use by an employee, they are still liable for legal consequences such as fines, ruined reputations, and litigation. Illegal content and software are also rife with malware that can cause vast technological and business damage.
- Preventing and stopping illegal content and software downloads require cleaning up company computers, buying required licenses, and establishing a policy known to all employees that clearly prohibits illegal downloads.

activities, and even worse is that employees may be ignorant of the risks and consequences of their actions. IT professionals, with management onboard, can prevent or stop these activities with the help of freely available knowledge and tools.

Piracy's Reach

In the last quarter of 2009, ScanSafe clocked a 55% increase in downloads of illegal content (entertainment material composed mostly of TV shows and music) in enterprises. "We're increasingly seeing these attempts within the enterprise," says Spencer Parker, director of project management at ScanSafe. "People forget they're at work."

Downloading actual business software, unlike content grabs, seems more steady-state. "From year to year, we have about 200 cases pending within the Software & Information Industry Association," says Keith Kupferschmid, senior vice president for intellectual property policy and enforcement at the software and digital content trade association. "The problem has been pretty consistent over the last 10 years." The SIIA (www.siiia.net) investigates cases of illegal software in the enterprise with the goal of achieving compliance. It can charge fines and, according to Kupferschmid, annually takes perhaps one or two cases to litigation.

The BSA (Business Software Alliance) is another industry organization that tracks, investigates, and takes action against the illegal use of business software in enterprises. The group receives nearly 2,500 piracy tips in the United States every year. "We investigate them all," says Peter Beruk, BSA senior director of compliance marketing. He also cites statistics from research company IDC indicating that 41% of installed business software in the world is illegal.

The Risks

Beruk says, "About 25% of the software sold through illegal sites has malware." Beruk cites an instance where an employee of a financial services company exposed company computers to malware when he downloaded music from LimeWire, a peer-to-peer software provider. When the employee started playing the downloaded music, he opened up the company's computers to LimeWire, exposing customer Social Security numbers and financial information.

Those are just the technical risks. Legal risks include fines, loss of reputation, and litigation.

For each instance of illegal software found on an enterprise's computers, the BSA and SIIA often charge fines that are around three times the cost of a license. That is usually a few hundred dollars per instance. If a case goes to litigation, however, each instance can cost as much as \$30,000 if it's unintentional and as much as \$150,000 if it's willful.

"Right now, some companies are just buying one license and putting the software on more than one machine because budgets are cut," Kupferschmid says. "That can get you in a lot of trouble, because the fines will be based on intent."

When the BSA finds a case of illegal software use in an enterprise that results in a fine, the organization distributes a press release naming the guilty company. "This is embarrassing," Beruk says. Where executives see no problem with illegal software, he adds, "These press releases can serve as cautionary tales for obstinate management."

Prevent Piracy

To stop content piracy, "you need a Web filtering solution," Parker says. These services and solutions will block out selected Web sites.

What sites should you block? "The file-sharing services are outside the United States and the European Union," Parker says. "They are located where what they do is legal."

Blocking illegal sites helps a lot, but it's not nearly enough. "One of the key elements is not only to have a Web filtering

How Employees Pirate Software

Keith Kupferschmid, senior vice president for intellectual policy and enforcement at SIIA (Software & Information Industry Association; www.siiia.net), says employees can obtain illegal software from five primary sources:

- By making illegal copies of licensed software for additional computers
- From peer-to-peer sites
- By bringing software from home and loading it onto company computers
- From sites that sell illegal copies of software
- From auction sites such as eBay

tool, but also to have an acceptable use policy," Parker says. "Many companies probably haven't updated these policies in years."

If that describes your company, or if your company has never had a software usage policy (also known as acceptable use or active software management policies), you will want to create a new one. Before doing that, however, you'll want to conduct an internal audit. Before anything else, you need to find out if you're violating license agreements or have illegal software or content on your computers. "Count up the number of computers and what's on them," Beruk says. "For the installed software, find the license documentation. Remove the illegal stuff and replace it with legal software."

After that, it's time to create the software usage policy. Such a policy covers the legalities of software usage, audit policies, employee and employer responsibilities, and penalties for noncompliance.

For the legalities, "It all comes down to proper compliance procedures," says

Kupferschmid. "You must record software e-purchases and licenses and perform audits to ensure there are no illegal software copies." You'll also want to audit for software employees have brought from home, downloaded from free sites, or even bought and installed without company oversight. Even if it's not malware, even if it's free or legally purchased by an employee, if it shouldn't be on the company computer, it'll either have to be removed or you'll have to develop a policy for it.

The same is true for new developments such as social networking sites. "How many companies have addressed this?" Parker asks.

With respect to employee responsibilities, the software usage policy should define those as well as the penalties for violating the policy. "You must be able to take remedial actions," Parker says, "but before you can do that legally, you have to address it in an acceptable usage policy."

To ensure employees are aware of acceptable usage, their responsibilities and the penalties for noncompliance, require them to acknowledge reading, understanding, and complying with policy. "A robust software active management plan is not just about compliance but about optimizing what you have for your uses," Beruk says. "You can reduce software costs with a good software active management plan." Additional information on software usage policies can be found on the BSA and SIIA Web sites.

"Without a good SAM plan, a company is operating at a competitive disadvantage because a violation can stop a company's operations," Beruk says. ■

ELCOMSOFT IPHONE PASSWORD BREAKER

NEW PRODUCT

Access To Encrypted iPhone & iPod Touch Backups

ELCOMSOFT IPHONE PASSWORD BREAKER is a GPU-accelerated password recovery tool to unlock encrypted iPhone and iPod Touch backups. Elcomsoft iPhone Password Breaker grants forensic access to information stored in Apple devices by recovering password-protected backups to iPhone 2G, 3G, and 3GS as well as iPod Touch 1st, 2nd, and 3rd Gen. The new Elcomsoft password recovery tool works with offline backups, supports original and "jailbroken" devices, and does not require Apple iTunes to be installed.

Introduced with Apple iTunes 8.1, password-protected backups are protected with strong encryption algorithms and require iPod/iPhone firmware 3.x or later. iPhone backups contain information about the use of the device, including phone books, call logs, SMS archives, calendars, camera snapshots, voice mail and email account settings, applications, Web browsing history and cache. iPhone 3G and 3GS store information about the GPS location.



Elcomsoft iPhone Password Breaker
Grants forensic access to information stored in Apple devices by recovering password-protected backups.

Equipped with advanced dictionary attacks and a range of permutations, Elcomsoft iPhone Password Breaker is the first commercially available forensic tool to grant access to information stored in Apple devices while employing ATI and NVIDIA hardware to speed up password recovery of data backups of original and modified iPhone and iPod Touch devices.

The password recovery tool unlocks access to information stored in password-protected iPhone and iPod backups by recovering the original password. Featuring Elcomsoft patent-pending

GPU acceleration, the password recovery tool unlocks encrypted backups orders of magnitude faster than traditional CPU-only algorithms. The password recovery tool enables GPU-accelerated performance on multiple high-end or consumer video cards based on NVIDIA and ATI chipsets.

Elcomsoft iPhone Password Breaker operates directly with backup data stored on a local PC, with no need to have Apple iTunes installed.

FEATURED PRODUCT

Credant Warns Of Laptop Theft From Detectable Wi-Fi Signals

Endpoint data security specialist Credant Technologies cautions laptop users about the danger of theft posed by detectable Wi-Fi signals.

Credant Senior Systems Engineer Sean Towns warns of the implications that can arise if laptop users do not take precautionary steps to avoid potential theft. “Unless the laptop is completely shut down and powered off, then there is the possibility for a criminal using either Wi-Fi detectors and/or Bluetooth receivers to identify within close proximity where a device may reside in a hidden location.” Enterprise employees must be aware that even if they conceal their laptops out of sight, they are still at risk of being stolen.

The increase in laptop theft, according to Credant, can be attributed to the wide availability of handheld Wi-Fi detectors. “Physical handheld Wi-Fi detectors are inexpensive and can be small enough to be carried in a pocket,” Towns notes. “Also, software on a PDA or a laptop is available to detect the proximity of Wi-Fi signals and identify the network names and the types of network, i.e. an infrastructure network or an ad-hoc network, being broadcast from a laptop.”

Costly Consequences

As important as a laptop is to an enterprise, the information contained on the device is just as, if not more, valuable, Towns says. “Preventing laptop theft is always a major concern for any business, and in many cases, the laptop itself is an expensive item to lose, but just as important is the data contained on these laptops.”

The consequences of lost or stolen data can end up being extremely costly for enterprises. For example, Towns references the recent legislation in the UK from the Information Commissioner’s Office that entails increased fines of up to 500,000 pounds for organizations that breach the Data Protection Act.

To reduce the possibility of laptop theft or damages, Towns says, IT departments should consider disabling hibernation and sleep modes on laptops through Group policies or manually restricting these modes so that when a user shuts the lid of the machine or presses the hibernate/sleep functions, the laptop actually shuts down. Additionally, it is vital that enterprises further protect themselves by encrypting company data to limit its usefulness should a laptop be stolen and sensitive data accessed by a malicious user, Towns notes.

by Candace Ross Blomendahl

by Joseph Pasquini

IN TODAY’S DATA-CENTRIC WORLD, much of the attention given to the vital subject matter of information security focuses upon the fortification of digital assets. However, just as corporate data is routinely safeguarded by an array of technology-based solutions, organizations need to also bear in mind the importance of physical security. In order to protect themselves from internal and external threats and ultimately remain successful in today’s unforgiving economy, enterprises must develop and implement security



plans that appropriately limit access both digitally and physically.

Video surveillance is an integral component of any comprehensive security portfolio. Although networked video monitoring systems may not necessarily be seen as a deterrent by anyone who is steadfastly determined to breach the perimeter, they are nevertheless valuable for incident verification and analysis. As a result, image quality and especially camera placement within the enterprise are critical.

To help companies of all shapes and sizes better handle their video monitoring needs, Asante (www.asante.com) recently introduced its SecureNet Voyager lineup of IP-enabled high-performance color cameras: the Voyager I for static installations and the Voyager II with pan and tilt capabilities for dynamic environments.

Formerly known as RegalTech, Asante has been designing, developing, and marketing a variety of networking solutions to small to medium-sized enterprises and small office/home office environments since the company’s inception in 1985. The Fremont, Calif.,-based firm offers enterprise and workgroup switches, gigabit modules, and surveillance cameras. Asante is a communication division of UIC Corporation.

Not Your Typical Web Cam

Unlike conventional desktop Web cams, the Voyager product lineup features true digital video signal processing in conjunction with network connectivity and remote administration capabilities. “The Asante Voyager I & II are industrial-grade,” says Albert Li, Asante’s vice president of sales and marketing. “Yet, they are also very affordable, and their features allow professionals to adopt the Voyager at the enterprise, SMB, and even SOHO level.”

Sporting a quarter-inch 1.3MP CMOS sensor with progressive scan and an effective resolution of 1,280 x 1,024, each device is designed to provide users with detailed image quality under a range of lighting conditions. “You can fill your whole screen, up to 1,280 x 1,024 with video, without the worry of pixelization or distortion,” says Li.

The Voyager’s 4.3mm f/2.8 fixed iris lens features a minimum illumination requirement of only 5 lux. Auto exposure, auto white balance, and auto gain control are also supported. Both the Voyager I and the Voyager II feature MPEG-4 and MJPEG video encoding with frame rates up to 30fps depending upon the resolution and mode.

In addition to their video capabilities, both Voyager models also support two-way audio utilizing G.726 compression at a bit rate of 24Kbps. “Two-way audio allows you to hear what’s going on, as well as directly communicate with those in the area where the camera is located,” explains Li. Each Voyager features connection ports for an external speaker; an internal microphone can be leveraged for one-way audio monitoring.

Each camera includes a tripod attachment suitable for wall mounting, hanging from a ceiling, or placing on a desk or cabinet.

Connectivity

The centerpiece of the Voyagers is their ability to deliver content over a network. “They both include a built-in Web server, which allow users to view remotely over a wired or wireless IP network,” says Li.

Both units feature a 10/100Mbps RJ-45 Ethernet port for direct network attachments as well as 802.11b/g support for wireless connections. Support for wireless encryption includes WEP, WPA, and WPA2.

The Voyager cameras also support 3GPP real-time video streams. Users of 3G mobile phones may access Voyager content provided that the camera has been configured with an externally accessible static IP address.

The Voyager I and II also provide pin outs for direct connection to third-party external devices such as alarms, detectors, and pagers.

Similar, Yet Different

Although the Voyager I and the Voyager II have many technical characteristics in common, there are some distinctive differences.

The Voyager I utilizes six infrared LEDs that allow users to operate the camera under very low-light conditions. “The Voyager I has infrared LEDs to enable night vision capability in the darkest of situations,” says Li. “Its night vision capability makes it an ideal solution for security applications in even the darkest of environments.” The effective range of the infrared LEDs is 5 meters.

The Voyager II features both wide angle and pan/tilt capabilities. The onboard wide range motor provides for 270 degrees of horizontal pan (+135 degrees to -135 degrees) and 135 degrees of vertical tilt (+90 degrees to -45

ASANTE SECURENET VOYAGER CAMERAS

(408) 435-8388
www.asante.com

Description: IP-connected cameras provide remote surveillance capabilities to SME and SOHO users.

Interesting Fact: Each camera in the Voyager product series is engineered to deliver sharp video images even in low-light conditions.

degrees). The camera may be configured to stop at up to 16 preset scan points.

The Voyager II also expands the two-way audio capabilities of its smaller sibling with the addition of a microphone input port.

Configuration, Administration & Viewing

Initial setup of the Voyager cameras is required once the hardware has been sited and installed. This configuration, which is accomplished via Asante’s IPCam Finder



executable applet and requires a direct connection to a LAN, allows administrators to find one or more cameras on a network and configure their IP addresses and related settings.

Administration of the Voyager I and II is done via Asante’s robust Web-based interface. Compatible with Internet Explorer as well as Firefox with the IE Tab add-on, the interface lets users view images and manipulate numerous camera settings, including video format (MPEG-4 mainstream, MPEG-4 substream, or MJPEG), view size (0.5 to 4X digital zoom), streaming (UDP, TCP, and HTTP), and brightness/hue/contrast/saturation (scale of 0 to 100). Hardware and network settings may also be administered through the interface. According to Li, up to 16 Voyager cameras can be monitored simultaneously.

When viewing video feeds, users can easily zoom in and out by simply clicking the image area and scrolling the mouse. Jitter time can also be adjusted on the fly for those situations in which reduced network quality impacts viewing.

Users may also record content as either .AVI video or .JPG snapshots at given intervals. “You can set a Voyager I or II to record video when motion is detected,” says Li. “This video can be sent to a server or even emailed to your desktop or smartphone.”



HOW TO

Pinpoint VoIP Problems

Find & Troubleshoot Network Spikes

by William Van Winkle

• • •

VOIP IS EVERYWHERE in the business world, as the promise of cost savings and greater productivity is too great to ignore. That doesn’t mean it’s problem-free: As with all major tech deployments, VoIP can run into trouble. But there are ways to diagnose and remedy these issues at all levels.

In The Beginning

Experts suggest that VoIP troubleshooting should start with LAN analysis. “There are various network analytics tools and optimizers that will let a network admin look into his traffic and see where the spikes are,” says IDC analyst Jonathan Edwards. “This happens a lot during peak times of the day or peak seasons for call centers, such as the holidays. These tools let you see where the traffic’s coming from and visualize the VoIP traffic. Then if a user reports a problem on a call, the admin can use that tool to trace it back to that time period and see what was happening at the time of the problem.”

There is a wide range of LAN analysis tools suitable for VoIP troubleshooting. “You have some tools that are hardware-based, where you basically have some probes in your network,” says Jerome Joanny, director of product integration at ShoreTel (www.shoretel.com). “Those probes basically generate traffic, measuring delay, jitter, and such. Software tools can do similar things, only they’re installed on PCs or servers that simulate traffic.”

One advantage with hardware-based analysis tools is they can usually be deployed at multiple locations to examine wide-area traffic issues. Most can also be controlled remotely through a client-based console app. Admins may also want to consider buying switches with built-in traffic analysis capabilities.

The whole point of LAN analysis tools (in this context) is to determine if there’s sufficient bandwidth for a VoIP platform to operate optimally. If an organization is already running near its LAN capacity, there may not be room for a VoIP installation. Similarly, if a VoIP platform gets deployed when a location is averaging around 50% bandwidth utilization but increasing head counts, new applications, and so on, take that average utilization up to 80% or 90%—then problems will start to pop up in applications with real-time criticality, such as voice and video.

Priorities & Balance

Mark Massingham, marketing manager at Avaya (www.avaya.com), says that

the first indication of impending VoIP problems is usually excessive jitter, which is the variation in time between voice packets arriving. Jitter causes “that robot voice thing” often heard in digital voice apps.

“The problem is that you’re using too much bandwidth, and it’s not being reserved for your voice traffic,” says Massingham. “You must have QoS-enabled switches. These will know a voice packet from a data packet and prioritize accordingly.”

Quality of service refers to controlling the reservation of network resources, not the observed quality of a given application’s output. Essentially, the switch is able to distinguish voice traffic from bulk data traffic and always give voice packets immediate priority, even if it means stalling other data for seconds at a time.

According to Avaya’s Massingham, the most common VoIP mistake enterprises make is trying to reuse existing switches. Old switches, even those that support QoS, can certainly handle voice traffic, but scaling becomes an issue. “You need to section your traffic,” he cautions. “Don’t put all your voice on one switch. Make sure it’s balanced across multiple switches.”

When Words Fail

Most experts emphasize the role of analysis tools in troubleshooting. However, David Scott, technical marketing engineer with Cisco’s IP business communications unit (www.cisco.com), suggests a more hands-on approach when voice services falter, as managers will most often learn they have a VoIP problem from user feedback, not tools.

For starters, determine the boundaries of the problem: Is the problem reproducible? If only one person is having a VoIP issue, the problem might just be the user’s headset.

Next, admins must figure out if the problem is a LAN or a WAN issue. “You naturally assume it’s the WAN,” says Scott, “because that involves the portion of your network that isn’t under your direct control. You may open up a trouble ticket with AT&T or whoever to find out what the problem is on their end only to have them come back and say, ‘Our network is fine, but you’re overutilizing your bandwidth.’ When you overutilize a WAN circuit, you get packet loss.”

Consider whether the problem is confined to only voice traffic or also to video traffic. This is particularly telling on a dedicated link between two locations, such as a T1 line. If the video

stream looks solid, the WAN connection is obviously not dropping a significant number of packets and the problem is likely to be internal to the afflicted facility. Alternatively, if adding video to a link only exacerbates the problem, then bandwidth constraints are more likely.

This is when it makes sense to have a failover system in place to route voice

Key Points

- Packet traffic analysis tools should be used to not only troubleshoot VoIP issues but to also assess LANs for VoIP suitability even before deployment.
- QoS policies are critical in making sure that voice traffic remains prioritized over potentially competing bulk data traffic.
- Cost savings realized in reduced WAN pipelines can incur additional cost outlays down the road as VoIP performance is compromised, potentially requiring costly failover measures.

traffic over the public Internet. Obviously, the Internet is less dependable in general, but a chaotic network with only occasional problems is better than a private connection that’s swamped. Additionally, if a link gets buried under heavy traffic, CAC (call admission control) can automatically roll calls over onto the public switched telephone network once a given bandwidth threshold is reached.

Scott adds that organizations that have downgraded to lower-bandwidth lines in an effort to cut costs during the recession are more likely to have to invoke CAC and other failover measures. Lower WAN bandwidth may save money up front, but it can impair voice services and ultimately incur costs or lost revenue down the road.

If one or two applications are compromising VoIP performance, admins can craft a “scavenger queue,” meaning placing a misbehaving app into a deprioritized queue where it’s only allowed to have up to 1% of available resources. Many companies do this with apps that soak up more than their fair share. This also ties back to having an effective QoS policy. If IT doesn’t mandate how applications should behave at the switch level and within the organization as a whole, there’s nothing to keep voice and data packets from competing. Naturally, there must be hardware and bandwidth in place at all levels that are capable of supporting such policies. ■

IBM X-Force Report Shows Rise In Insecure Web Apps, Links

Organizations and vendors are responding more effectively to threats and risks on the Web, and new vulnerabilities have decreased, according to the IBM X-Force 2009 Trend & Risk Report. But cyber criminals have focused their efforts on different areas. According to the IBM report, 6,601 new security threats were found in 2009, which is an 11% decrease over 2008.

The report says attackers primarily used malicious Web links, phishing techniques, and vulnerabilities within document readers and editors (such as PDF files) to attack Web users



last year. In fact, there were 345% more malicious Web link attacks globally in 2009 than the previous year; those attacks have proven to be lucrative for cyber criminals. Additionally, organizations disclosed more than 50% more security holes for document readers and editors as well as multimedia programs.

Major Threat

In addition to malicious Web links, phishing, and threats within document readers and editors, Web applications continue to be a major security threat. These vulnerabilities take up a 49% share of all security risks, with cross-site scripting and SQL injection attacks accounting for the majority of problems. About 67% of vulnerabilities were left unpatched at the end of the year.

When it comes to patching vulnerabilities, many manufacturers do well at keeping up, but an average of 66% of all vulnerabilities are patched. The Linux community topped the list of overall unpatched security threats with 53%, followed by Oracle (38%), Novell (31%), and IBM (27%).

Malware, including malicious aspects of the Internet, continues to change and adapt to Web trends. Malware has outgrown traditional definitions, such as Trojan, virus, and worms, and cyber criminals currently are focusing much of their malware efforts on social networking sites, the report states. According to the report, more than 7% of the Web is deemed “socially unacceptable” or malicious.

Email attacks, which include spam and phishing, blossomed midway through 2009 and reached numbers that were twice as high as those reported after McColo was disbanded at the end of 2008. In an email attack, cyber criminals generally include malicious Web links inside emails to fool recipients into clicking seemingly legitimate sites that are actually malicious. Some attackers have even included legitimate URLs within emails embedded inside malicious Web pages to exploit recipients.

by Tessa Warner Breneman

TOP TIPS

- “If you’re a small business, you’re probably not going to buy a \$30,000 analysis tool,” says Jayanth Angl, senior research analyst at Info-Tech Research Group. “That’s when it makes sense to bring in a third party. Talk to your integrator. They should be more than
- capable of doing LAN analysis testing.”
 - Cisco recommends analyzing VoIP performance according to application SLAs. For example, a voice app might mandate UDP traffic priority, 150ms or less one-way delay, 30ms or less
- jitter, and a maximum of 1% packet loss. Without such SLAs, a manager will never be sure when VoIP traffic is operating within or beyond spec and when remediation should be sought.
 - Cisco further advises IT managers to heed the inherent
- unfairness of QoS. Because voice should be given priority, other applications in the organization may be negatively impacted. A VoIP deployment should be handled politically, with executive endorsements and potential reorganizations if necessary.

Email Server Appliances & Software

HARDWARE

Product	AtMail Email Appliance	AtMail ArchiveVault Appliance	Cyglan Small Business Mail Archive Appliance
			
Description	<p>Utilizing Intel's 64-bit Core 2 Duo (Base Model) and Core 2 Quad (Pro Model) processors, the AtMail Email Appliance leverages WebMail, SMTP, POP3, antispam, and antivirus services to achieve optimal performance. The bundled hardware and software solution saves time and cost when deploying your new mail server or upgrading your existing system. The AtMail Email Appliance is a complete turnkey email server solution.</p> <ul style="list-style-type: none">Secure and stable OS1U rackmount chassis with hot-swap disksWeb-based administration panel with customizable interfaceMultibrowser supportPlug-and-play hardware setup <p>Best For: Data centers and companies wanting a complete email solution with fast installation.</p> <p>Price: Starts at \$3,800 for the Base Model</p>	<p>The AtMail ArchiveVault Appliance offers the best in secure, reliable email archival. With its ability to work with most Linux operating systems, it provides a light, portable, yet powerful way to deploy an archiving solution. Functioning as a robust archive option, ArchiveVault keeps mail both safe and accessible. The included software captures, stores, and recovers all incoming, outgoing, and saved emails.</p> <ul style="list-style-type: none">Aids in compliance with HIPAA, FRCP, and Sarbanes-OxleySupports Sendmail, qMail, Postfix, Exim, Exchange, and moreSpeeds communications with next-gen quad-core processors from IntelPowered by 64-bit CentOS LinuxEasy to set up and use <p>Best For: Data centers and companies wanting a complete email archiving solution.</p> <p>Price: Starts at \$5,250</p>	<p>The Cyglan SBMA is an indexing and archiving server that organizes and delivers a highly accessible email library. The Web GUI gives administrators the reins to centrally define, manage, and control email archive compliance. Whether through workgroup or domain network connectivity, the Cyglan SBMA backs up and restores archived messages to a separate storage location. Single-instance storage works to remove duplicate emails or attachments so that storage capacity does not reach its maximum.</p> <ul style="list-style-type: none">Features network connectivity for backup to tape driveView, forward, and search for critical emailsRequires no per-user licensing fees and no database integrationAids in compliance with FRCP, HIPAA, and Sarbanes-Oxley <p>Best For: Companies that want complete access to their mail archives with easy search and retrieval.</p> <p>Price: Starts at \$3,895</p>
Contact	(877) 428-6245 www.atmail.com	(877) 428-6245 www.atmail.com	(603) 686-5050 www.cyglan.com

Product	Cyglan Small Business Mail Encryption Appliance	Cyglan Small Business Mail Server Appliance	InBoxer Anti-Risk Appliance
			
Description	<p>The Cyglan SBME provides multiple delivery methods available to select by the sender. Using pull technology, the Cyglan SBME stores messages behind the enterprise firewall, protecting messages at the right place and the right time. It's ideal for protecting sensitive business data whether it's in transit or stored on the server. Any first-time users are walked through an enrollment process without installing software.</p> <ul style="list-style-type: none">Guaranteed regulatory compliance with HIPAA, GLB, California SB-1386, and Sarbanes-OxleyThe SBME supports all email platforms, and messages can be opened by anyone using AOL, Yahoo!, Gmail, and Hotmail (in addition to Outlook, Lotus Notes, and Groupwise)Secure response lets recipients reply without installing softwareSBME can handle large documents and seamlessly supports all email servers <p>Best For: SMEs that want to push the value of improving customer communication, data protection, and email visibility.</p> <p>Price: Starts at \$3,195</p>	<p>Designed to meet the needs of small and medium-sized enterprises and satellite offices, the Cyglan SBMS is a reliable, affordable, and easy-to-use all-in-one email server appliance. The SBMS includes comprehensive management features, including an extensive log that lets you check the status of any incoming or outgoing message.</p> <ul style="list-style-type: none">Outer layer of spam protection against emerging email threatsVirus Outbreak filters stop suspicious emails long before they come into your networkEasy-to-use management tools, including a Web-based user interface with personal control settings <p>Best For: Data centers in search of an affordable mail server that will reduce admin burdens and increase end-user productivity.</p> <p>Price: Starts at \$3,495</p>	<p>The InBoxer Anti-Risk Appliance is a fully integrated email and IM archiving system that features electronic discovery and content monitoring for compliance. It is designed for enterprises and nonprofits with up to 30,000 employees that need to collect and organize their messages enterprise-wide for regulatory use, litigation, and policy management. The InBoxer Anti-Risk Appliance captures email messages from Microsoft Exchange, IBM Lotus Domino, Open Text First Class, Kerio, Unix, and others.</p> <ul style="list-style-type: none">Optimized for very fast search and retrievalInBoxer Pre-Search categorizes more than 80 of the most frequently searched items, including senders, recipients, Social Security numbers, confidential information, and offensive contentIdentifies messages that other systems miss using advanced language technology and high-performance power searchReal-time policy management and compliance alerts provide automated warnings and reporting to employees as well as management and compliance officers <p>Best For: Organizations that want to be ready for litigation and regulatory support.</p> <p>Price: Starts at \$5,000</p>
Contact	(603) 686-5050 www.cyglan.com	(603) 686-5050 www.cyglan.com	(978) 341-0020 www.inboxer.com

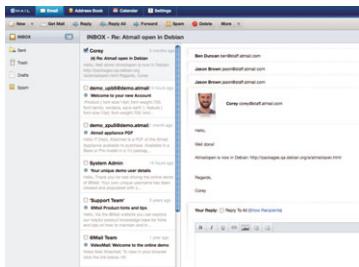
Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Compiled by Joanna Safford

SOFTWARE

Product

Atmail Email Server & Webmail Client



Description

The AtMail Email Server and Webmail Client offers complete POP3/IMAP/SMTP mail server functionality, Groupware features, Web-based administration, and a Webmail interface, all built on a high-performance and reliable platform that includes source code. Overall, the AtMail Email Server is designed to deploy, collaborate, and serve the data center with ease.

- Supports SMTP/SMTP TLS, POP3/POP3s, and IMAP/IMAPs
- Complete Web administration
- Built on open-source and compliant protocols
- Full source code for customization and control
- Calendar Server includes the open protocol CalDAV specification

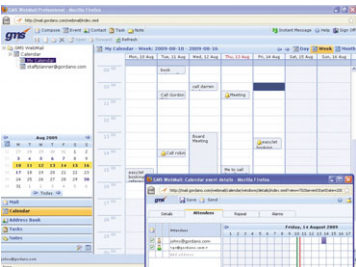
Best For: SMEs in need of a flexible, easy-to-use email server solution.

Price: Starts at \$500 for 25 users

Contact

(877) 428-6245
www.atmail.com

Gordano Messaging Suite



The Gordano Messaging Suite provides a comprehensive email, collaboration, and groupware messaging solution with significant TCO savings. Identical functionality is available on your choice of platform, and open standards are supported throughout, allowing full choice of client software. The suite is scalable and flexible, offers low management overhead, and can run on commodity hardware.

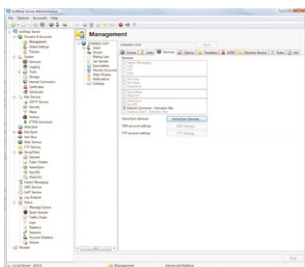
- Works with Windows, Linux, Solaris, and AIX
- WebMail provides a viable alternative to the traditional mail client
- Features comprehensive, multilayered spam and virus protection
- Components include GMS Mail Server, GMS WebMail Server, GMS Collaboration, GMS Instant Messenger, and GMS Archiver

Best For: Providers of hosted services, with particular emphasis on multitenant installations.

Price: Starts at \$425

(877) 292-1142
www.gordano.com

IceWarp Unified Communications Server Version 10



IceWarp Unified Communications Server fully integrates a number of mission-critical services and features, including communications, collaboration, mobility, and security. Organizations that deploy IceWarp UCS have immediate access to integrated email, instant messaging, VoIP, text messaging, groupware data, dual-layer antispam and antivirus protection, and a number of mobility features. IceWarp WebClient delivers all communication needs in a single unified Web-based interface, including Webmail, spam control, integrated archiving, and Web-based SIP.

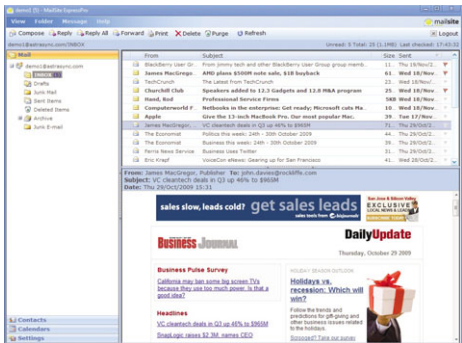
- Includes task management resources such as Calendars, FreeBusy Lookup, and iMIP for Outlook
- Server-side antispam protection via SpamAssassin with black- and whitelists
- Complete administrator control over quarantine and granulation
- Push data via SyncML and ActiveSync with IceWarp SmartSync

Best For: Deployments of all sizes, from an SME's single-server installation to a service provider's load-balanced multi-server installation.

(888) 423-9277
www.icewarp.com

Product

MailSite Fusion SP



Description

MailSite Fusion SP is an email, calendar, contact, and mobile sync server that works natively with Outlook 2007. MailSite Fusion SP also works with ActiveSync-compatible smartphones, including the iPhone, Android, Palm Pre, Windows Mobile, and BlackBerry, and provides a low-cost alternative to Microsoft Exchange.

- Includes ExpressPro, an advanced AJAX Web client
- Supports ActiveSync for email, calendar, and contact sync with all major smartphones
- High availability with n+1-node active/active cluster
- Advanced two-tier cluster architecture
- IMAP/SMTP/POP3/LDAP servers included

Best For: Service providers, ISPs, carriers, and hosting providers.

Contact

(408) 879-5600
www.mailsite.com

Open-Xchange Appliance Edition



Open-Xchange Appliance Edition is an easy-to-deploy offering for small and medium-sized enterprises. It comes as an all-in-one appliance package, including a Linux operating system (Univention Corporate Server 2.1) and full-featured Open-Xchange collaboration.

- Ready to use within minutes for small and midsized companies that need an email and document server without having to depend on an IT expert
- Easy to install and integrate into existing IT infrastructure
- Includes an email and collaboration server, document management, backup/recovery, and virus and spam protection

Best For: Enterprises with 10 to 250 users that need an easy-to-use and easy-to-deploy solution.

Price: Starts at \$675 for 10 users

(914) 500-4020
www.open-xchange.com

Open-Xchange Server Edition



Open-Xchange Server Edition is a scalable on-premises messaging platform for Linux that is built on open-source components and standards such as POP and IMAP for messaging, iCal for calendaring, and vCard for contacts. OX SE can be integrated into existing LDAP and Active Directory environments and features a wide set of collaborative modules that let end users share email, calendars, contacts, tasks, and documents.

- Modular design and open standards are ideally suited for integration into existing IT infrastructures, where use of email and management services can be continued
- Provides the basis for efficient teamwork with email, appointment, contact, document, and task management
- Supports Debian 4/5, SUSE Linux Enterprise Server 10/11, and Red Hat Enterprise Linux 5



Best For: Midsized enterprises, educational institutions, and public administrations.

Price: Starts at \$1,312.50 for 25 users

(914) 500-4020
www.open-xchange.com

Data Center Cleaning Service Providers

Company	Controlled Contamination Services	Data Clean	Data-Tec Systems
			
Description	<p>Specializing in working with data centers of all sizes, Controlled Contamination Services can clean the most sensitive components to rid your data center of fine particles, residue buildup, and other contaminants. Professionals will clean server rooms with the latest micro-cleaning techniques. Controlled Contamination Services performs background checks on their own employees to ensure your facilities and equipment are in the right hands.</p> <ul style="list-style-type: none">• Services for UPS rooms, computer rooms, and network control centers• Proper cleaning materials will reduce electrostatic charges and protect sensitive environments• Cleaning services also disinfect raised floor areas and command centers• Will remove dust that air filters can't catch <p>Best For: Data centers in need of sensitive equipment cleaning.</p>	<p>Data Clean takes care of all-purpose cleaning, including areas such as cleanrooms, laboratories, and test chambers. The company targets exterior hardware, top-of-floor, underfloor plenum, post-construction, subfloor sealing, and disaster recovery cleaning. In addition, Data Clean can provide consultations regarding zinc whisker removal.</p> <ul style="list-style-type: none">• Can clean just about any room, including data centers, computer rooms, and cleanrooms• Use of HEPA-filtered vacuums to remove microparticles• Specialized cleaning agents remove dirt from tile and carpeted surfaces• Services backed by the Data Clean 100% Satisfaction Guarantee <p>Best For: Data centers that need a detail-oriented cleaning.</p>	<p>Data-Tec Systems specializes in servicing a variety of IT-related facilities, including computer rooms, server rooms, print facilities, MDF rooms, item processing rooms, and even general office areas on raised flooring. Data-Tec Systems has been providing maintenance services since 1991 and can care for equipment, tile, subfloor, and access floor cleaning as a complete package. Data-Tec Systems employs trained technicians who know how to manage delicate IT equipment while cleaning data center rooms.</p> <ul style="list-style-type: none">• Periodic computer room exterior shell cleaning• Access floor tile surface cleaning with pretreated, environmentally safe cleaners• Subfloor tack cloth wipe-down• Access floor installation and replacement <p>Best For: Data centers that utilize multiple rooms.</p>
Contact	(888) 263-9886 www.cleanroomcleaning.com	(800) 328-2256 www.dataclean.com	(888) 595-6422 www.data-tecsystems.com

Company	ProSource Mission Critical Services	PTS Data Center Solutions	Sterile Environment Technologies
			
Description	<p>ProSource Mission Critical Services offers contamination and ESD control services that consist of multitier, time-sequenced maintenance plans and contamination cleaning for subfloor, raised floor, equipment surface, and ceiling areas. Subfloor encapsulation includes an epoxy coating application to prevent subfloor plenum vapors and dust. Additionally, Team ProSource's ESD control services cover antistatic floor finishing; Pro-Tek Anti-Static Floor Finish inhibits static buildup.</p> <ul style="list-style-type: none">• Annual and semiannual service options• Customized plans are available for different facilities• Raised floor surface cleaning features Pro-Tek and Microfiber Flat Mopping System• Airborne particle count sampling uses laser particle counters to control the amount of particulate matter in the data center <p>Best For: Data centers that require extensive and frequent maintenance from top to bottom.</p>	<p>PTS Data Center Solutions cleans all operating systems after data center construction is finished. Focusing on what's above and below raised floor data centers, PTS Data Center Solutions pays attention to the details, including equipment wipe-downs, antistatic cleaning, and ramp landing waxing. Because regular data cleaning and maintenance is a must, PTS Data Center Solutions recommends regular data center sanitation to preserve the life of the data center interior, exterior, and underbelly.</p> <ul style="list-style-type: none">• Subfloor encapsulation to eradicate concrete powdering• Vacuuming removes dust, dirt, and other pollutants• Use of machine scrubbing for high-pressure laminate raised-floor surfaces• Crews will take precautions to understand what's required for cleaning an active data center environment <p>Best For: Frequent, thorough, and regular maintenance of the full data center.</p>	<p>Sterile Environment Technologies is a national leader in data center cleaning that brings cleanroom-level protocols to data centers, computer rooms, server farms, and other sensitive critical and high-tech environments. SET3 can clean data centers of all sizes that require cooling efficiency, maximum uptime, and healthy air for employees. In addition, Sterile Environment Technologies is a highly sought-after consulting and services firm that can audit your facility's needs and provide specific services such as belt debris, zinc needle, and Halon/FM200 remediation services; onsite interior electronics/tape/motherboard decontamination; antistatic subfloor surface sealing; and tacky mat provisioning.</p> <ul style="list-style-type: none">• Provides cleaning services for subfloors, server cabinets, racking, access floors, antistatic wax surfaces, open ceilings, ceiling plenums, and more• Highly trained and experienced managers and technicians• Cleanroom-approved chemicals and equipment to ensure the long-term safety and health of your environment <p>Best For: All critical environments that follow Federal 209E and ISO 14644 standards.</p>
Contact	(888) 247-0986 www.team-prosource.com	(866) 787-3271 www.ptsdcs.com	(407) 935-0620 www.set3.com

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Compiled by Joanna Safford

GCA Services Group



GCA Services Group does more than simply clean your data center; it offers a host of facility maintenance programs suited for the needs of individual data centers. GCA Services also offers custom Green Cleaning to ensure the health and safety of occupants while ensuring it uses the most environmentally friendly methods available.

- Services adhere to cGMP techniques, IEST Federal Standards, and ISO Cleanroom Operations Standards
- Maintains bio-pharmaceutical, semiconductor, aerospace, bio-safety, chemical, defense, nanotechnology, and optics environments
- Sterile environment cleaning includes decontamination, disinfection, gown room management, lab support services, and more
- The Green Cleaning program provides custodial effectiveness assessments, sustainable cleaning processes, and certified sustainable chemicals while complying with GREENGUARD and offering Green Seal-compliant products

Best For: Environmentally conscious data centers.

(800) 422-8760
www.gcaservices.com

Pegasus Cleanroom



Specializing in designing and implementing a maintenance program for data centers of any size, Pegasus Cleanroom Services seeks to enhance mission-critical environments by cleaning and protecting data room assets. Pegasus Cleanroom Services can take care of data processing, call center, command center, Web hosting, colocation, and telecom departments. Additionally, Pegasus provides a host of standard data center cleaning services, such as general cleaning, access floor cleaning, subfloor cleaning, and equipment surface cleaning.

- Offers environmental sampling and reporting
- Disaster recovery cleaning available
- ISO testing/room certification
- Antistatic floor care and monitoring
- Develop your own personally scheduled plan twice a year, quarterly, or daily

Best For: Data center administrators who value personally developed cleaning schedules.

(858) 444-2290
www.pegasuscleanroom.com

Plenum Cleaning Services



Plenum Cleaning Services cleans Tier I, II, III, and IV data centers in accordance with ISO 14644 standards without introducing any liquids or scrubbing machines that require liquids. Plenum Cleaning Services pretreats microfiber cloths and flat mops with a specially designed nonresidue antistatic cleaning solution and uses ULPA-filtered frequency-suppressed vacuum cleaners.

- Improves the static dissipation properties and prolongs the condition of the high-pressure laminate subfloor
- Lowers cooling costs by reducing the air density and improving the air quality by removing 99.999% of dust, pollen, mold, bacteria, and any airborne particles with a size of 0.12 micron or larger
- Prolongs the lifetime of hardware and equipment by maintaining optimal operating conditions
- Free estimates

Best For: Preventing costly downtime related to thermal shutdown as a result of components overheating because of dust and debris buildup.

(480) 285-1603
www.plenumcleaning.com

Spec-Clean



The Spec-Clean maintenance program features continual maintenance that's based on your budget requirements and scheduling convenience. Spec-Clean performs cleaning inspections, precleaning vacuuming, and interruption-free hardware moves. Exterior hardware cleaning includes microfiber hand cleaning for server racks, CRAC units, PDUs, hardware, and other standard equipment. Spec-Clean also provides both top of raised floor and underfloor cleaning, stringer and pedestal cleaning, specialized carpet maintenance, and zinc whisker remediation.

- Complete sanitation of exterior hardware, plus chairs, windows, and office equipment
- HEPA vacuuming takes care of dust on exterior cabinets, monitors, and flat surfaces
- Client walk-throughs ensure that you're covering every detail
- Low-foam water and ammonia-free carpet extractor offered for carpet cleaning

Best For: Data center managers who like detail-oriented deep cleaning.

(203) 885-0174
www.specclean.com

Specialty Cleaning Services



Specialty Cleaning Services can effectively clean data centers, while also taking care of cleanroom, industrial lighting, acoustical ceiling tile, and post-construction cleaning. Offering five basic services, Specialty Cleaning Services uses HEPA-filtered vacuums, lint-free dust cloths, and sterile cleaning agents to complete commercial cleaning tasks such as exterior hardware cleaning, top-of-floor cleaning, underfloor plenum cleaning, above ceiling cleaning, air sampling, and environmental reports.

- Heavy-duty cleaning for post-construction facilities
- Cleanroom sanitation for large facilities
- Water-based, nontoxic cleaning materials for acoustical ceiling tile
- Services are available for scheduled intervals throughout the year

Best For: Data centers that want detailed, hands-on professional cleaning services.

(303) 750-2532
www.specialtycleaningservices.net

Do you have a
NEW
PRODUCT
that data center
and IT managers
would
be interested
in learning
about?

Send your press release or related product information to press@processor.com.

Eliminating User Rights Lessens Windows 7 Vulnerabilities

Eliminating user rights can have a positive impact on an enterprise's ability to mitigate the effects of vulnerabilities in Windows 7. According to a recent study conducted by BeyondTrust, 90% of critical Win7 vulnerabilities can be avoided by removing administrative rights. The study also discovered that, of all the vulnerabilities found in 2009, 100% of those relating to Microsoft Office, 94% of those found in all versions of Internet Explorer (and 100% of those found in IE8 alone), and 64% of those relating to Microsoft products overall could be prevented by restricting administrative rights.



An additional area examined was Remote Code Execution, which saw an 87% success rate for mitigating vulnerabilities. This susceptibility, in the words of Scott McCarley, BeyondTrust's director of marketing, is one of the most dangerous. "These vulnerabilities are one of the most serious in nature as they can allow an unauthorized user to take complete control over the computer remotely," he explains. "Removing admin rights significantly limits what someone can remotely do." There is no greater threat to a system, he says.

Also of high concern are Critical Microsoft vulnerabilities, which the study shows can be lessened by 81% when administrator rights are eliminated. These vulnerabilities tend to be the first exploits patched for a new piece of software and, says McCarley, are also "the ones most likely to be mitigated by removing admin rights."

Remember: Not All Employees Are Admins

The most important insight that data center and IT managers can gain from BeyondTrust's study, then, is that deploying end users as standard users rather than administrators can help protect enterprises from the high costs and risks associated with vulnerabilities. "Exploited vulnerability can open up an organization to serious threats caused by intentional, indirect, and accidental harm," McCarley explains. "These threats not only damage data integrity and corporate reputations," he says, but also come with the high costs of fines and impacted productivity, with resources being diverted from business-critical IT operations to plugging the security holes.

By capping administrative rights, enterprises can "prevent an attacker from installing software, accessing certain data, or stopping other security services important to the continued protection of the computer," McCarley says.

by Patrick Kean

Workforce Personas

Enhance Your Ability To Provide Tailored IT Services

by Kurt Marko

• • •

FOR MARKETING PROFESSIONALS and software designers, workforce personas have long served as useful constructs for tailoring advertising campaigns or application features to specific demographics or users. In this context, personas are merely idealized or stereotypical consumers with a set of needs, preferences, and behaviors that help designers refine and prioritize product features. What distinguishes personas from so-called user archetypes is the endowment of a personality, individual narrative, and even name, all of which combine to make personas useful mnemonics when doing user segmentation.

Workforce personas, a term coined by Forrester Research analyst Ted Schadler, are merely the application of these personalized user archetypes to IT customer segmentation. By Schadler's definition, they are "a set of information worker segments brought to life by describing each group as a real person" that become powerful segmentation tools by virtue of the amalgamation of several attributes into a common idealized individual. He feels personas can help shift IT from being a supplier of standardized, one-size-fits-all sets of applications and services to one offering a menu of supported offerings tailored to different user populations.

Basic Approaches vs. Personas

There are four categories of IT users, according to Info-Tech analyst Gareth Doherty: job description (software developer, accountant, secretary), functional unit or department (engineering, finance, marketing), organizational level (individual contributor, manager, executive), or user type (data entry operator, task worker, power user). The first three classifications are almost trivial to implement because they're derived automatically from a company's organizational chart; however, that simplicity comes at the price of inaccuracy. According to Schadler, functional role or title is a blunt instrument and a poor proxy for user segments because "you tend to over-provision executives and under-provision everyone else." The last approach, segmenting based on generic user type, is somewhat more distinctive, says Doherty, because it focuses on actual information consumption or collaboration needs.

Personas go beyond these simplistic segmentation models yet can be difficult to develop, requiring specialized skills in constructing surveys and statistical analysis.

This results in a handful of categories grouping workers with similar needs, which are then validated and refined through focus groups or stakeholder interviews. In essence, Schadler says you start with the quantitative survey, and then do a qualitative assessment.

Key Points

- Surveying users and developing a segmentation model can help IT move from an often inefficient one-size-fits-all service strategy to one better tailored to employees' needs and work styles.
- Workforce personas bring those segments to light, adding color, personality, and archetypical characteristics by naming each segment and describing it as if it were an actual individual.
- The most important segmentation parameters for information workers are the number of applications each uses and the number of locations they typically work from on a PC or smartphone.

In applying personas to IT, Schadler sought to identify the most significant differentiating factors and common traits for so-called iWorkers (information workers). To develop a quasi-universal set of personas, Forrester surveyed more than 2,000 iWorkers about how they used technology in their jobs, looking at a variety of factors. They then applied sophisticated statistical techniques to find those most highly correlated and predictive of user needs and attitudes toward office technology. The result was that two characteristics, the number of productivity and collaboration applications an employee uses and the number of locations in which they use a computer or smartphone for work, accounted for 85% of the differences—a result Schadler says was common across industries. "What varied was the percentage in each group," he says.

Dividing the employee population using these two vectors, Forrester came up with four model personas: the mobile professional, the deskbound contributor, the offline practitioner, and the accidental iWorker. Naming each, Schadler then used the personas as vehicles to elaborate and illustrate common behaviors, characteristics, and IT requirements for each. Illustrating their value to IT service planners, the personas exposed or highlighted unmet needs, ill-suited applications, or inadequate services.

Using Segments/Personas To Customize IT Services

A core thesis of Schadler's research report on workforce personas is that "the days of one-size-fits-all provisioning are on the wane. The pressure to improve workforce, team, and business productivity is on the rise." Particularly in the area of collaboration and social networking, Schadler says IT has not been responsive to employee needs and rapid technology evolution. He notes that increasing demands for technology customization coupled with greater pressure to improve productivity mean IT will need to "tailor the workforce technology toolkit to the needs of specific employee groups based on a deep understanding of their needs."

Although user segmentation has benefits, Info-Tech analyst Andy Woyzbun cautions organizations to be selective when customizing service offerings. He says to look for user distinctions where the differences will have a meaningful effect on IT services and where service differentiation makes financial sense. He says user segmentation for sophisticated, expensive tools such as business intelligence systems or collaboration platforms often has a bigger financial benefit. "If you're going to sweat the details, don't sweat low-level job tasks," he explains.

Working with his clients in recent years, Schadler has identified nine areas where he says developing a deeper understanding of employees' needs through workforce personas can improve user experience or save IT money. These include reducing productivity suite licensing costs by only provisioning full enterprise suites to certain segments; implementing Web 2.0 collaboration tools such as teleconferencing, social networking, or shared collaboration sites (SharePoint, Wikis, and so on) only to those groups with broad collaboration networks; or tailoring mobile devices and services to employee needs. On the client side, segmentation can help identify candidates for VDI (virtual desktop infrastructure; on the low end) and BYOPC (bring your own PC; on the high end) vs. a traditional managed PC.

Benefits Of Personas

Developing a personified user segmentation is IT's first step toward breaking out of a workforce technology straightjacket. As cloud services and SaaS become mainstream provisioning methods, Schadler believes IT will find it easier to offer customized services to different employee groups, particularly those users who don't need dedicated software 'power tools.' Personas and user archetypes can also uncover unmet user needs and head off situations where employees bypass IT, becoming their own technology provider by downloading software or bringing personal devices into work.

Ultimately, tailoring the IT environment to various worker segments improves productivity and business results. Schadler explains that the benefits include cost avoidance (through reduced software licenses or travel), productivity improvement (employees are more efficient because they have just enough tools for their needs), and faster, more agile business processes and cycles. P

Creating Workforce Personas

Forrester used sophisticated quantitative techniques to test and analyze 25 different factors, including job function, technology attitude, industry, and generation, before settling on two powerful and relevant characteristics that drive many workforce provisioning decisions today:

- The number of productivity and collaboration applications an employee uses. This factor is a very good predictor of how much an employee collaborates as well as her core needs and attitudes toward technology. For example, an employee who uses fewer applications is also more likely to want to keep things simple, which makes him a good candidate for a virtual desktop.
- The number of locations in which an employee uses a computer or smartphone. This factor indicates how mobile an employee is and how important mobile or location-independent computing is to her job. A highly mobile employee might be a classic power user, but she might also be a trainer, shift supervisor, or nurse.

SOURCE: "HARNESS THE POWER OF WORKFORCE PERSONAS"; FORRESTER RESEARCH REPORT BY TED SCHADLER; DECEMBER 2009; UPDATED JANUARY 2010.

Chargeback & Financial Reporting For Virtualized Servers

Cloud-Like Pricing Models Can Allocate Costs

by Kurt Marko

LIKE A TSUNAMI crashing through town, virtualization has swept through IT, upsetting the established order and permanently changing the environment. Initially seen as a means of tapping hardware capabilities that had vastly outpaced the needs of most software, virtualization came into its own during the recent recession as a money-saving way to consolidate applications onto fewer servers. Yet the adoption of virtualization has also led IT managers to wonder how they are going to pay for all this progress. As Forrester Research analyst James Staten points out, cost allocation is proving a major challenge as IT makes its infrastructure more cloud-like.

Chargeback has long been popular with large enterprises as a way to accurately tie IT expenses to actual usage and control runaway service demand. Outlining the benefits of chargeback accounting, Bronagh Sorota, CTO and founder of VAlign Software (www.valignsoftware.com), says, “It’s not just about cost recovery, it’s about demand management. Offering visibility into who is using how much of a shared infrastructure is a great way to manage demand.” Yet in a dynamic, virtualized environment, accurately tracking this is easier said than done.

“In legacy chargeback systems, cost allocation was relatively easy because there was one-to-one mapping between

an owner and a server,” says Sorota. “It was easy to determine who paid for the system.” Virtualization destroys this mapping. “Due to the shared design of virtualized infrastructure, lines of ownership become obscured. Many users are sharing the physical infrastructure, and it’s impossible to determine how much of that shared infrastructure is used by who and at what cost, so it really does break the legacy chargeback system.”

Basic Chargeback Methodology

The methodology for allocating VM (virtual machine) costs is conceptually simple, although gathering and regularly updating the required data can be tedious and cries out for software automation. Staten outlines a seven-step program that starts by calculating the fully loaded TCO, including staff overhead, VM management software, per-port network costs, facilities expenses, and support contracts, of each server in the virtual pool (see the “Basic Chargeback Methodology For Virtual Servers” sidebar). The total is then amortized over the system’s life span, typically three to five years.

Yet, accurately accounting for all server costs is tricky and fraught with error, according to Jeff Day, director of marketing at Apptio (www.apptio.com). “Most IT departments struggle with even a base layer understanding of the fully loaded cost of IT and use a pretty rudimentary analysis.” He says IT’s TCO allocation model often has too many high-level assumptions that don’t accurately show the costs associated with specific hardware or applications—a problem that savvy business managers are quick to pick apart when reviewing their IT bills.

Caveats aside, when using a best-effort per-server TCO number, the next step is pricing actual VMs. The simplest approach is dividing the baseline annual cost of one system across the number of VMs it can support. Although virtualization offers great flexibility in resource sizing, Staten says the fewer default configurations, the better. “Use T-shirt-sized VMs,” he says, then pick three or four standards (small, medium, and large) and calculate how many of each a server can handle. Dividing the per-server cost by the number of VMs (at each size) it can support yields the cost per VM.

These rates must recover all relevant costs, says Sorota. “When you’re setting your rates, it’s very important to set them based on available capacity and your costs.”

The final steps in Staten’s process involve pricing, starting with setting a billing period. Although cloud providers often price by the hour, Staten says that with the exception of test and development systems, this level of granularity is overkill in the enterprise because applications rarely move between systems, and

workloads are more static. Thus, monthly rates are a good compromise. Next, he says the pricing must be communicated to emphasize the service’s value and competitiveness with public cloud providers, what he terms the pricing optics.

A VM cost model should also account for different service, reliability, and performance levels. Again, Staten recommends using a few standard categories, such as noncritical, business-critical, or mission-critical for servers or Tier 1, 2, or 3 for storage, to keep the model simple but reflect the true cost of high-availability technologies, processes, services, and

Key Points

- Adapting IT chargeback to virtualized infrastructure provides a fair allocation of the total costs of running the environment based on VM usage.
- A basic VM cost model entails calculating the TCO for buying and operating the virtual infrastructure.
- A simple model using three or four standard VM sizes and a monthly billing cycle is a good starting point.

support. Unlike VM pricing where bigger means more expensive, with storage, a gigabyte isn’t a gigabyte. Sorota says storage pricing must reflect the costs inherent in procuring and operating different tiers, which may range from expensive high-performance mirrored Fibre Channel arrays to low-cost commodity SATA JBODs.

Tracking VM Usage & Handling Dynamic Load-Balanced Workloads

A particular implementation challenge with a chargeback system for virtual resources is usage tracking and integrating usage data with a billing system. Mainstream virtualization management software can dish out extremely granular usage statistics, even tracking workloads dynamically moving among different servers. When using a simple low-frequency cost model with, for example, three VM sizes and monthly billing, manually pulling this into a spreadsheet is feasible, but new VM chargeback tools automate the process. For large virtual environments, these are the software glue between resource consumption and cost allocation.

As cloud services mature and become viable alternatives in the minds of business managers to internal systems, Staten believes IT will be under pressure for greater cost transparency with granular usage-based pricing. Sorota agrees. “Cloud providers encourage enterprise IT organizations to become much more competitive, because if they’re not, they could be outsourced.”



Mobile Phone Survey Shows Top Manufacturers, Satisfaction

J.D. Power and Associates released the results of its surveys of traditional cell phone and smartphone users, and LG and Apple were the top manufacturers in their respective categories. The surveys also rated customer satisfaction between smartphones and traditional cell phones and found that touch-screen-equipped models of each type were popular with users, scoring 771 and 756 points out of 1,000, which was 40 points higher than smartphones sans touchscreens and 53 points higher than tactile input-lacking traditional cell phones, respectively. When separated by manufacturer, Apple received top marks for ease of operation, operating system, physical design, and handset features but stumbled when it comes to battery life. The best-rated traditional handset maker, LG, scored well in operation, overall design, features, and battery life. The surveys also found that 50% of smartphone users share multimedia, but just 25% of traditional cell phone users say they share multimedia.

Offshore Wind Power Could Supply Global Energy Demand

According to new research from the University of Delaware and Stony Brook University, offshore wind turbines could serve to pool power into a singular electricity grid. If the turbines are connected to a common power grid, they could correct the inconsistent power supply to households. Scientists constructed a model grid patterned after wind behavior over the past five years; the data revealed that the wind energy would have provided a regulated current of electricity. Several Atlantic offshore wind farms are in the works, although the primary obstacles blocking construction projects include local opposition and state utility regulations.

Android Platform Posts Fastest Growth Rate

Google’s Android software is outgrowing all its competitive mobile operating systems, including platforms from Research In Motion, Apple, Microsoft, and Palm, according to the latest data from ComScore. Android is responsible for 9% of the smartphone market, up 5.2% between November and February. This increase indicates the continued support for the new platform. Research In Motion’s market share topped out at 42.1%; Apple came in second with a 25.4% share. Microsoft’s share decreased by 4% to 15.1%. In fifth place, Palm lost 1.8% (down to 5.4%) of its share.

Ransomware, Zero-Day Threats At Large

The Bredolab and Pushdo botnet loaders are prime reasons for a recent surge of malware on users’ PCs, according to Fortinet. Nine out of the top 10 malware threats in March were scareware and ransomware, the company says, with Bredolab and Pushdo the driving forces behind them. Another botnet loader called Sasfis is also making a name for itself and rising to a position of prominence. In addition, a full quarter of the detected malware activity was because of a zero-day threat known by the lengthy title of MS.IE.Userdata.Behavior.Code.Execution, Fortinet says.

Basic Chargeback Methodology For Virtual Servers

Allocating costs for applications run on virtual servers is more complex than when each has a dedicated physical box, but the process doesn’t have to be overwhelming. Here’s a seven-step program for building a basic VM cost model.

1. Baseline your TCO for physical deployment.
2. Add the cost of your virtual infrastructure to this total. Incorporate the full cost of the virtual infrastructure you deploy as your standard, plus all virtualization management tools.
3. Determine the size of VMs that will be the standard units of consumption.
4. Determine the number of each VM size that can fit on a physical system.
5. Divide the per-virtual-host cost by this number of VMs.
6. Determine your billing period. You may choose to bill daily, monthly, or quarterly.
7. Get the pricing optics right to convey value. When comparing to external services, make sure it’s apples-to-apples.

Cloud Computing: Helping SMEs Compete

A Look At How This Technology Can Boost An SME's Ability To Keep Pace With Larger Competitors

by Elizabeth Millard
• • •

WHEN MOHAWK FINE PAPERS needed to compete with larger players, the company didn't decide to grow its data center and staffing; instead, it turned to cloud computing. The firm developed a computing model that's built for change, which has become the core for how Mohawk integrates with business partners, according to Vice President of Information Technology Paul Stamas.

"The critical advantage is flexibility and agility," he says. "We can establish relationships faster and less expensively, and we can respond to changes in the business environment by adding or removing

"I think we're going to see a lot more small companies launch faster because of cloud computing."

-Alvenda's Wade Gerten

business partners in [an] almost 'plug-and-play' fashion."

In another example of cloud computing might, an ecommerce-focused startup found its footing using the strategy. Minnesota-based Alvenda, a firm that creates retail pop-up ads on Web sites, used cloud computing to develop its proprietary technology.

Alvenda (www.alvenda.com) co-founder Wade Gerten says, "I think we're going to see a lot more small companies launch faster because of cloud computing. Without it, I don't think we could have gotten this company started when we did, and because

of the timing of our launch, we were first to market, which is a huge advantage."

Leveling The Playing Field

Although cloud computing took some time for the kinks to get worked out—particularly security and access issues—the strategy is now being adopted with more frequency. That's good news for SMEs, according to many experts, especially as they compete with larger players in their industries.

"Smaller enterprises are quickly realizing that the cloud is cost-efficient and has a low barrier of entry," says Dylan Stamat, CIO at ELC Technologies (web.elctech.com), adding that more IaaS (infrastructure-as-a-service) and PaaS (platform-as-a-service) companies are gearing offerings toward SMEs and providing usability at an even easier level of abstraction and at reasonable prices.

In some cases, these vendors eliminate the need for a full-time system administrator because the details of the underlying hardware and software architecture that support the application software are managed behind the scenes. Stamat says, "Scaling and configuration is then handled by the application developers, and most of the administration can be done through an intuitive Web interface."

Mohawk's Stamas adds that cloud computing has enhanced the effectiveness of SMEs by lowering the cost of collaborating across the enterprise, enhancing business value, and lowering operating costs. This is particularly important for SMEs in manufacturing, he notes, because survival for them is dependent on enterprise agility, adaptability, and developing highly differentiated products and services in a global value chain.

Another advantage is better software use, notes Chris Sousa, manager of managed services for Dataprise (www.dataprise.com). "Cloud computing solutions allow SMEs to use software that can increase efficiency and provide a competitive advantage

Key Points

- More providers of IaaS and PaaS offerings are gearing their services toward SMEs, providing more usability at a lower cost.
- Operating costs can be pared with cloud computing, which, in some cases, can even eliminate the need for full-time system administrators.
- Cloud computing provides access to high-level software as well as IT expertise.

without the large investment that it would take without a cloud offering," he says. "Clouds allow SMEs to pay for what they need as they use it, on a monthly basis, instead of significant infrastructure costs up front and costly ongoing maintenance."

SMEs also tap into the purchasing power of a larger consumer of infrastructure, and even after paying some margin to the cloud services provider, get a lot of capacity for less cost than they'd have to pay if they did it themselves, according to Jeff Hartley, vice president of products and marketing at Terracotta (www.terracotta.org).

Beyond lower costs, there's expertise to consider, he adds. "They can benefit from

Getting Started

When moving toward cloud computing or refining an existing strategy, it's important to take a broader look at the landscape of cloud computing providers, advises Dylan Stamat of ELC Technologies (web.elctech.com). He notes that like any other hosting provider, an SME should document the constraints, benefits, and costs of each vendor. Here are some questions to ask during the process:

- What kind of SLA does the provider have?
- How does that SLA compare to what the SME has now?
- What kind of redundancy mechanisms are in place, if any?
- Where are the cloud provider's data centers located geographically, and how will that affect your SME's latency?
- What type of security assurances do you need in order to feel that your data is being protected?

a provider's IT operations experience, a skill set that can be tough to build in-house when you're trying to put everything you have into building new products and reaching new markets."

For companies concerned about regulations or higher quality of service goals, private on-premises clouds can be created, notes Hartley. Even though these systems may be higher in cost and effort than a larger provider, they still allow an SME to compete with bigger players, he says. "With private clouds, you can get the operational benefits of clouds with great hardware consolidation benefits but more control over potentially sensitive data and performance tuning, along with lower variable cost risk down the road."

Going Cloud Jumping

In terms of challenges, the only roadblock that Alvenda hit was the need to separate out credit card processing from the cloud in order to meet regulatory requirements.

The firm relied on a local hosting provider for that capability, because regulations dictate that a company must be able to physically inspect the servers of any credit card processing provider. Beyond that, however, Gerten says the process has been streamlined and is fairly easy.

Mohawk's Stamas also notes that there are few drawbacks he sees. He says, "Most organizations, particularly IT organizations, need to liberate their thinking that they can deliver most IT services internally more effectively than external service providers."

He adds, "Once you understand the IT organization of the future is focused on inter-enterprise integration and governance of a portfolio of business providers rather than the management of IT systems, you will more fully understand the potential benefits of cloud computing." ■

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Improve Your Enterprise’s Operating Effectiveness & Save Money

Uptime Institute Symposium 2010 Focuses Entirely On The IT Industry

by Nathan Lake

BY BRINGING the best minds of the IT industry together, Uptime Institute Symposium 2010 helps you learn ways to improve the operating effectiveness of your enterprise and save your organization money in power costs. Symposium 2010 will occur May 17 through May 19 and focus on how IT staff and solution providers can meet their collective goals of improving energy efficiency while also improving



business productivity and mission-critical availability and reliability. **Who should attend.** With more than 80 sessions spread over three days, attendees can explore the state of the industry and provide understanding for long-term economic implications of efficiency, scalability, and uptime reliability. IT staff will also

come away with actionable strategies that can be deployed within the organization. According to the Uptime Institute, the event is “ideal for people who have a direct responsibility for IT and data center engineering and operational management.” For instance, managers who want to improve the energy efficiency of operations, especially enterprises where energy use now has board-level attention. **The event.** Symposium 2010 has several themes. Available IT covers how initiatives to improve energy efficiency don’t compromise business objectives and uptime. Scalable IT helps enterprises reconcile growing and sometimes unpredictable demand for IT while still optimizing resource use. Sustainable IT provides ideas to reduce waste energy, water, and other resources. You can find complete information at symposium.uptimeinstitute.com. **Get on track.** The Uptime Institute has created a track system to make it easy for attendees to find sessions and panels they would most benefit from. Five tracks are offered: Planning For Uncertain Demand; IT & Facilities Energy Optimization; Availability & Continuity; Sustainability, Carbon & Compliance; and Best Practices & Effective Technologies. At the symposium

Uptime Institute Symposium 2010

The Uptime Institute Symposium 2010 will be held May 17 through May 19 at the Hilton New York, which is in the heart of midtown Manhattan. You can register through the event’s Web site at symposium.uptimeinstitute.com.

How Will You Benefit From Attending?

Symposium 2010 is all about improving your data center. Uptime Institute says attendees will come away with key information, including:

- What steps to first take to improve energy efficiency.
- An understanding that their state energy office or local utility may have a specific incentive program they should investigate.
- How to optimize data center operations in tandem with corporate and line-of-business computing and cloud strategies.
- Best practices that can deliver improved energy, cost, and environment performance.

- How IT asset utilization, configuration, consolidation, and virtualization need to be harmonized with capability planning and long-term data center strategies.
- How other organizations align people and functions at every level and across disciplines to improve efficiency and eco-sustainability.
- The ability to network and share best practices with international peers.

Web site, show participants can search for sessions by topic. **Networking.** The symposium is designed to be an interactive and collaborative program. According to Uptime Institute, “At the end of each symposium day, all delegates meet in the exposition hall for an evening mixer reception where they can both meet with each other and the 75-plus exhibitor companies—all of whom have ‘green’ solutions.” Weeks before Symposium 2010, delegates can log on to the eConnect social networking tool to see who will be attending and set up onsite meetings. On a prescheduled basis, delegates can sign up for 30-minute one-on-one meetings with the Uptime Institute data center engineering experts and analysts from The 451 Group and Tier1 Research. **The Green Enterprise IT awards.** At Symposium 2010, the Uptime Institute will host the The Green Enterprise IT awards, which recognize companies and teams whose projects, ideas, and technology have demonstrated the ability to significantly improve energy productivity and resource use in IT. On the first night, the winners will share their experiences and insights through formal case studies. [E]

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You can find more detailed information on these companies and the products they offer inside this issue.

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